उत्तम उत्पाद

उत्तम
Product Booklet
2025

Uttam's Contribution : Complete Agriculture Solution

For Agriculture Helpline Information Please Contact
1800 180 5550 (Toll Free)

CHAMBAL FERTILISERS AND CHEMICALS LIMITED

Uttam Product Booklet

Best products and best farming knowledge are the identity of a progressive farmer.

Quick Response Code

Preface

India, blessed with diverse agro-climatic conditions, has always been at the forefront of implementing the latest techniques of crop production. India has set a record in the field of food production in the world by adopting major techniques like the use of fertilizers for the proper supply of nutrients in high yielding common and hybrid varieties of crops, intensive farming with the help of irrigation resources etc. Presently, about 292 million tonnes of food grains, 34 million tonnes of oilseeds, 354 million tonnes of sugarcane, 98 million tonnes of fruits, 215 million tonnes of vegetables, 6 million tonnes of cotton etc. are being produced by Indian farmers. But even after all the above-mentioned steps of progress, it is the priority of our country to provide more agricultural products to meet the food needs of the growing population of the country. At the same time, we have to pay attention to the option of bringing the loss caused by various diseases, pests and weeds to the minimum level in crop production.

According to an assessment done at the national level, crops worth Rs 6000 to 8000 crores per year in India get sacrificed from various pests, weeds, insects, spiders, rats and diseases etc. The maximum damage caused by these pests is 33% from weeds, 26% by various diseases, about 20% by insects and 14% by rats and 7% by other factors.

Most of the chemicals for plant protection are synthetic and are used to control pests that damage crops, diseases and weeds that grow with crops. While the effect of these chemicals is helpful in the control of targeted pests of crops, on the other hand, due to their indiscriminate use, their harmful effect also falls on human domestic animals, birds, micro-organisms besides other friendly and human-useful untargeted organisms.

Chambal Fertilizers & Chemicals Ltd. is also providing various inputs of major plant protection to the farmers under single window system. In this sequence, information related to the use of various plant protection chemicals by the company is being presented in a booklet.

About

Urea (Uttam Veer) production was started by Chambal Fertilisers and Chemicals Limited in 1994 in village Gadepan district Kota (Rajasthan). It has three huge plants with an annual capacity of 3.5 million tonnes of urea production. Due to its hard work commitment, latest technology and strong relationship with farmers, Chambal has become the largest private sector fertilizer company in India.

Chambal Fertilizers distributes its products in 13 states in the northern, central, western and southern regions of India. A strong network of about 4000 vendors and 50,000 sub-sellers along with 20 Zonal Marketing Offices helps in smooth running of Chambal's marketing work.

Going one step ahead of the specialized skills acquired in fertilizer production, Chambal also provides “Complete Agriculture Solution” to the farmers of the country through its world class quality agricultural inputs. In addition to Chambal urea, DAP, MOP, NPK will be provided under the entire crop input system under one roof. and other agricultural inputs such as Sulphur bentonite, zinc sulphate, micronutrient mixture and plant protection chemicals etc. to the farmers. To build a strong relationship with the farmers and provide them 'complete agro-based' special services and Important farming related information is provided through various programs like, under the "Seed to harvesting" program by Chambal, farmers' seminar, farmer training, and crop field demonstration, balanced fertilisation on the basis of soil testing.

Information about the weather, right cropping techniques and market prices etc. is made available for the guidance of the new age educated farmers on a website called uttamkrishi.com apart from this, Chambal provides free farming related advice by agriculture experts to the farmer brothers on the phone through “Hello Uttam 1800 180 5550 Kisan Phone Service”, which saves their time and travel expenses. Chambal Fertilizers also provides soil testing facility to farmers of western India through modern laboratories located in Agra and Kota (Gadepan) for balanced and better practical use of fertilizers. In these agricultural development laboratories equipped with state-of-the-art equipment, the work of soil and irrigation water testing is done under the supervision of trained and experienced soil scientists. The company's soil testing service has increased the yield of farmers as well as their income. Apart from the social upliftment works like water harvesting, health care, rural infrastructure development, education and women empowerment, it is the constant endeavor of Chambal that through agricultural knowledge and inputs, the standard of rural life and living should be raised.

Uttam Fertilisers

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Bharat Urea

(46 % Nitrogen)

Features of Bharat Urea

1 Urea made with the latest and modern technology
1 large, solid and shiny particles
1 Easily scatter across fields.
1 Improved nitrogen utilization by crops
1 Increase in the yield and quality of crops.
1 Environmentally friendly.

The role of Bharat urea in plants

- The Bharat urea is helpful in the growth and development of plants.
- The Bharat urea also enhances the quality of leafy vegetables and fodder.
- Nitrogen utilization is increased by the use of bharat urea.
- The loss of nitrogen is reduced with the use of bharat urea.
- The supply of nitrogen to the crop with bharat urea is slow and for a long time.
- The possibilities of disease and insect outbreaks on the crop are also reduced by the use of the bharat urea.

Consequences of Nitrogen Deficiency

- The growth of plants is hindered.
- The old leaves of the plant turn yellow from the upper end towards the lower end and after that, the old leaves dry up and fall.
- Excessive deficiency results in reduced flowering and reduced yield.

Lakhs of farmers from different states are taking advantage of this by adopting bharat Urea.

Bharat D.A.P.

Features of Bharat D.A.P

- Bharat D.A.P. is an imported product made in the world's top-quality factories.
- Each grain of Bharat D.A.P contains 18 per cent nitrogen and 46 per cent phosphorus.
- It is made available to the farmers only after thorough testing of quality at every level.

Bharat D.A.P.'s role in plants

- Bharat D.A.P. It plays an important role in early crop ripening, nitrogen stabilization in pulse crops and the overall development of plants.
- Bharat D.A.P. helps in the development of roots of plants, the strength of stem, flower and seed formation etc.

Consequences of Phosphorus Deficiency

- Due to the lack of phosphorus in the plants, the growth of the plant stops from the beginning. And they remain dwarf and small.
- The leaves of the plant become dark green or blue or purple in colour.
- Leaves start falling in the immature stage as well as flowers and fruits also come late than normal.

Bharat D.A.P. is available in every area of your state.

- Lakhs of farmers from different states are using and taking advantage of bharat
- DAP.

Bharat M.O.P.

(60 % Potassium)

Role of Bharat M.O.P in plants

- Bharat M.O.P. It is an essential nutrient of all crops.
- Bharat M.O.P increases the activity of enzymes.
- Bharat M.O.P. helps in transporting carbohydrates, protein synthesis and maintaining their stability.
- Bharat M.O.P. develops the capacity of the roots of plants to tolerate drought.
- Bharat M.O.P. regulates the production and flow of proteins, starch and sugars.
- Bharat M.O.P. increases the ability of plants to fight diseases, insects and diseases.
- Bharat M.O.P. increases the ability of plants to fight against frost.
- Bharat M.O.P. protects plant cells from falling by making them fully developed.
- Bharat M.O.P. improves crop yield and quality.

Loss of plants due to lack of potassium

- Leaves become small, thin and dry towards the ends, turn brown and twist.
- The growth of upper buds in plants stops.
- The stem is weak and the plant falls easily.
- The seeds and fruits wither and the quality of the product decreases.
- The chances of getting diseases in the crop are increased.
- Lakhs of farmers from different states are using Bharat M.O.P. taking advantage of it.

Bharat N.P.K.

(12:32:16 and 10:26:26)

Features of Bharat N.P.K. 12:32:16

- Bharat N.P.K. 12:32:16 Fertilizer is used as a combined fertilizer to supply all three major nutrients like Nitrogen, Phosphorous and Potash. It contains 12% Nitrogen, 32% Phosphorous and 16% Potassium.
- Bharat N.P.K. 12:32:16 Fertilizer is an ideal compound fertilizer for crops that require high phosphate during the initial stages of plant growth.
- In leguminous crops such as soybean, peas and other pulse crops, the requirement of nitrogen element is less, in such a situation the use of this fertilizer is more beneficial.

Features of Bharat N. P.K. 10:26:26

- Bharat N.P.K. 10:26:26 Fertilizer is a combined fertilizer, which contains all the major nutrients Nitrogen, Phosphorous and Potassium.
- Bharat N.P.K. 10:26:26 The fertilizer contains phosphorus and potassium nutrients in the ratio of 1:1.
- Bharat N.P.K. 10:26:26 Fertilizers are especially valuable for those crops which require large amounts of phosphorus and potassium available in the soil.
- Bharat N.P.K. 10:26:26 The phosphorus present in the fertilizer is completely soluble in water.
- Bharat N.P.K. 10:26:26 Ideally suitable for crops for fertilizers requiring high phosphate and potassium
- Bharat N.P.K. 10:26:26 Fertilizer helps in increasing the quality and yield of crops.
- Bharat N.P.K. 10:26:26 Fertilizer is also suitable for fruit crops.

Bharat A.P.S.

(20:20:0:13)

Features of Bharat A.P.S.

- Bharat A.P.S. 20:20:0:13 Fertilizer contains 20 % Nitrogen, and 20% Phosphorus along with 13 % sulphur, after N.P.K. is the fourth major nutrient for crops.
- Bharat A.P.S. The 20:20:0:13 fertilizer contains Nitrogen and Phosphate in a 1:1 ratio, so this fertilizer is suitable for all those crops in which Nitrogen and Phosphorous elements are recommended in a 1:1 ratio.
- Bharat A.P.S. 20:20:0:13 Due to the presence of sulphur in the fertilizer, it helps the crops to utilize nitrogen effectively.
- Bharat A.P.S. 20:20:0:13 An excellent fertilizer for all crops grown in Sulphur-Deficient Soils. Also, this fertilizer is very suitable for crops requiring high sulphur content such as oilseeds, pulses and cereal crops.
- Bharat A.P.S. 20:20:0:13 The fertilizer has a very low moisture-retentive nature, making it suitable for a wide variety of soils and crops.

Bharat N.P.K.S.

(15:15:15:09)

Nitrogen 15 %, Phosphorus 15 %, Potassium 15 % and 9 % Sulphur available in Bharat N.P.K.S (15:15:15:09) makes this fertilizer ideal for the development of various plants, vegetables and orchards. Along with Bharat N.P.K.S and, potash grade, ammonium phosphate is the ratio 1:1:1: Nitrogen in the form of Ammonia and Urea, which prevents loss from leaching thereby reducing Nitrogen use, and efficiency is improved. It contains 13% water-soluble P2O5,15% potassium and 9% sulphur out of 15% phosphorus.

Uses and Benefits:

- May be recommended for all crops, including crops requiring high nitrate, because, under upwelling conditions, the NH4 form can be easily oxidised N to the NO3 form.
- Highly suitable for paddy crops.
- Since the source of nitrogen is both ammonia and urea, it is suitable for long-duration crops like coffee, tea, areca nut and other plantation crops.
- Since it contains sulphur, it is suitable for sulphur-loving crops like pulses and oilseeds and improves yield and quality.

Bharat T.S.P

(15:15:15:09)

Features of Bharat TSP

- What is Bharat TSP- Bharat TSP is a powerful water soluble phosphorus fertilizer containing 46% Phosphorus and 11-16% Calcium.
- In which crops should Bharat TSP be used- Uttam TSP is best for use in all cereals, oil tubers and vegetable crops.

How to use Bharat TSP:-

- During preparation of the field before sowing.
- At the time of sowing through seed drill in the field.
- While piling soil on the plants near the roots.

Benefits of using Bharat TSP:-

- Phosphorus becomes available to plants timely and easily.
- Good root development leads to complete and greater growth of plants.
- More branches and leaves develop.
- More flowers and fruits are produced, resulting in higher yield.
- The calcium found in it helps the plant in its overall growth and makes it tolerant of adverse weather.
- Helps in land improvement.

Weedicide

Weedicide Chemicals

Harmful, undesirable plants and vegetation that grow on their own with the main crop in the field are known as weeds. Weed plants in the field compete for the availability of nutrients, space, water and light etc. from the main crop. Due to insufficient growth of the main crop due to weeds, there is a significant reduction in yield and economic loss to the farmers. Weed plants are also helpful in increasing various types of harmful pests and diseases in the main crop. Most weeds grow by seed. But weeds like Nutgrass, Doob also spread with the help of tubers, rhizomes and suckers etc. They are propagated by mixing them with the seeds of the main crop with the seedlings obtained from the nursery by the seeds of the dormant weeds of the previous year present in the field. Along with this, they are also spread through the air, water, agricultural machinery, humans and animals and birds etc. by reaching the weed seeds in the field.

To control weeds, it is necessary to do inter culture activities like weeding, hoeing, adopting crop rotation in the field from time to time. The process of weeding not only keeps the crop free from weeds, but also helps in the development of roots and air circulation in the soil. In the last years, due to the lack of human labour and not being available on time, the use of chemicals to destroy weeds has increased.

Effect of weed killer chemicals –

Weedicide chemicals can be selective or non-selective in nature. Butaveer, Lido, Pretilaveer, Zeto, Prido and Veerkill are the main weedicides used for Kharif crops.

Chemicals such as Toto and Attract are included in the non-selective class of weedicides. Exposure to weedicides (Attract, Weeza, Moto etc.) on target plants results in (a) disruption of photosynthesis (b) fatty acids produced in plants (c) amino acids (d) production of many types of enzymes are inhibited. Due to which the plants start dying after some time. Plants begin to die when there is an unexpected growth in cells due to herbicides like Veerkill, which produce enzyme-like effects in plants.

Most of the weedicides are sprayed directly on the crop or weeds, but liquid chemicals like Pretilaveer and Butaveer are mixed with the soil and dispersed evenly over the paddy fields.

The use of chemicals like extract and penveer helps in destroying the dormant spores of weeds present in the soil during their germination.

Precautions in the use of weedicides-

The application method of weedicides sprayed on crops is different from other plant protection chemicals. In the use of weedicides, pay attention to the following points:-

- Use a flat fan or flood jet nozzle in the spray pump for uniform spraying in the field only.
- Never spray the crop twice at a time.
- Never use more than the recommended amount of the chemical.
- Spray only at the appropriate stage of the crop. Spraying done at a later stage may cause damage to the main crop or weeds may not be controlled as expected.
- Use 150 to 160 litres of clean water per acre for spraying.
- Spraying should be done in calm weather and never in strong wind, otherwise weed killer chemicals in the flow of wind can cause damage by reaching the nearby field or untargeted crop.
- Use protective measures such as rubber gloves when using chemicals that are granulated or mixed with soil.
- Do not use hormone-containing chemicals like Veerkill in the fields adjacent to cotton.
- Do not use weedicides as far as possible in the fields of the mixed cropping and if it is necessary to do this, then take a decision keeping in mind the mutual nature of mixed crops and weeds.
- Do not use weedicides in combination with insecticides and fungicides.

Identify weeds and use proper weedicides

Setaria viridis

Solanum nigrum

Chenopodium album

Tribulus terrestris

Eclipta alba

Lathyrus aphaka L

Identify weeds and use proper weedicides

Cynodon dactylon

Parthenium hysterophorus

Phalaris minor

Convolvulus arvensis

Cleome viscosa

Amaranthus viridis

Identify weeds and use proper weedicides

Emex spinosa

Avena fatua

Sinapis arvensis

Ischaemum rugosum

Cyperus rotundus

Pontederia crassipe

Identify weeds and use proper weedicides

Commelina benghalensis

Anaglis arvensis

Solanum nigrum

Eleusine indica

Cyperus iria

Trianthema spp

Identify weeds and use proper weedicides

Asphodelus fistulosus

Digera muricata

Argemone mexicana

Melilotus Spp.

Echinochloa sp

Digitaria spp.

Silosia Argentia

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Attract

(ATRAZINE 50 % W.P.)

Attract is a selective systemic weedicide. It can be used in crops like maize, sugarcane, etc., both as pre and post emergence herbicide. After the weeds have grown, the Attract is more effective when it is applied at a height of 3 cm because in this stage its absorption is more by the leaves and roots. When absorbed by weeds, it kills them by inhibiting the process of photosynthesis in them.

Table of Use :-

Major Crops	Controlled Weeds	Quantity (per acre)	Method of use
Maize	Trianthema monogyna, Digera arvensis, Echinochloa spp., Eleusine spp., Xanthium strumarium, Brachiaria spp., Amaranthus viridis, Cleome viscosa, Digitaria spp., Polygonum spp.	400 to 800 gram	Dissolve in 200 to 250 liter of water and spray it evenly in the field within two days of sowing.
Sugarcane	Digitaria spp., Boerhaavia diffusa, Euphorbia spp., Tribulus terrestris, Portulaca oleracea	400 to 1600 gram	Dissolve 200 to 250 lit of water in the field and spray it evenly in the field within two days of sowing the crop or pressing the sugarcane pieces into the ground.

Precautions-

- Attract can also be used on the stage of 2 to 3 leaves of weeds.
- There should be no earthen lumps and garbage in the field at the time of use of Attract.
- There should be sufficient moisture in the field at the time of spraying.

Uttam Mozo

(Metsulfuron Methyl 10%+ Chlorimuron Ethyl 10% + W.P)

Effective for control of broadleaf weeds and sedges in direct seeding. It is effectively used for weed management in paddy. Uttam Mojo works at very low dosage.Its use as a direct seeded paddy crop makes it a clear choice for rice growers across the country.

Speciality:-

Uttam Mojo herbicide works through both contact and residual soil activity, hence providing weed management in paddy for long term.It is also not prone to volatility and does not harm adjacent crops like mustard, vegetable, fruit crops, cotton, castor etc. unless sprayed directly on them.

Main crop: Paddy

Weeds to be controlled: Umbrella Moy, Dolawala Motha, Huragrass, Bhringraj, Herb, Kana, Nanka Betel Leaf, Water Clover.

Usage quantity: Dissolve 8 grams in 120 liters of water and spray per acre.

Time of use: It can be used before weed germination and after germination at 2 - 4 leaf stage.

Zeto

(FENOXAPROP-P-ETHYL 9.3% EC)

Zeto Aryloxy is a selective topical and systemic weedicide of the phenoxy-propionate category. Zeto is used for the weeds of the grass family. After its absorption, its elements spread in the plants from the leaves to the roots and from the lower parts to the upper parts and do not allow the fatty acids formed by the biological activities of the plants, as a result of which the weed plants turn yellow and dry up. It is used in the control of annual and multi-annual weeds of wheat, barley grass family by mixing safener (Mefenpyr diethyl) after the weeds grow. It should not be used for the control of broad-leaved weeds.

Table of use :-

Major Crops	Controlled Weeds	Quantity (per acre)	Method of use
Black lentil	Echinochloa colonum, Echinochloa crusgalli, Digitaria spp, Dactyloctenium aegyptium	200 to 300 ml	15 to 20 days after sowing, the crop should be sprayed with 150 to 200 liters of water.
Rice (planted)	Echinochloa colonum, Echinochloa crusgalli	250 ml	After 10 to 15 days of sowing the crop should be dissolved in 150 to 200 liters of water and sprayed evenly using flat fan nozzle.

Major Crops	Controlled Weeds	Quantity (per acre)	Method of use
Soybean	Echinochloa colonum, Echinochloa crusgalli, Setaria spp, Brachiaria spp, Eluesine indica, Digitaria spp	450 ml	After 15 to 20 days of sowing the crop should be dissolved in 150 to 200 liters of water and sprayed using pellet fan nozzle.
Cotton	Echinochloa colonum, Eluesine indica, Dactyloctenium aegyptium, Eragrostis minor	300 ml	After 20 to 25 days of sowing the crop should be sprayed with 200 liters of water.
Onion	Echinochloa crusgalli, Dactyloctenium aegyptium	350 ml	Spray at 3-4 leaf stage of the weed.
Groundnut	Echinochloa colonum, Echinochloa crusgalli	350 ml	Spray 15-20 days after sowing the crop or at 3-4 leaf stage of weeds.

Precautions-

- Do not use Veerkill or Moto in conjunction with Zeto. If the above weedicides have to be used, then do it at least seven days after the spraying of Zeto.

Dhumketu

(Imazathapar 10% sl)

Dhumketu is a comprehensive weed killer, which successfully controls narrow and broad leaf weeds growing in soybean and groundnut crops. It affects the roots and leaves of weeds and kills them. Due to the impact of comets, the production of proteins in plants stops and DNA. And there is a barrier in the formation of cells and this destroys the weeds.

Table of use -

Major Crops	Controlled Weeds	Quantity (per acre)	Method of use
Soybean	Cyperus difformis, Echinochloa colonum, E. crusgalli, Euphorbia hirta, Croton sperrsifeorus, Digera arvensis, Commelina Benghalensis	400 ml Uttam Dhumketu + 400 gm Uttam booster + 300 ml Uttam spread	Dissolve in 250 liters of water and spray at two to three leaf stage of the crop.
Groundnut	Cyperus difformis, Commelina benghalensis, Trianthema portulacasturm, Eragrostis pilosa	400-600 ml	Dissolve in 200-300 liters of water and spray at two to three leafy stage of the crop.

Method of preparation of solution -

400 ml Dissolve the comet in one liter of water and add 400 grams of Um Booster. Now it has 300 ml. Make a solution by mixing the spread and add 8.5 liters of clean and clean water to it and make the solution 10 liters. Spray this solution on the crop with 250 liters of water.

Precautions-

- It is necessary to have sufficient moisture in the field at the time of spraying.
- There should be no chance of rain for about 1 to 2 hours after spraying.
- Use only flood jet or flat-fan nozzles in the sprinkler pump.

TOTO

(Paraquate Dichloride 24% SL)

Toto is a non-selective herbicide of the Bipyridylium class. It can be used to destroy all types of annual, biennial and multi-annual weeds, shrubs and clumps growing in rows between crops, orchards etc. and in non-caste lands. On coming in contact with Toto, the green parts of the plants absorb its active ingredients, due to which the leaves of the affected plants dry up and fall. When the foliage is devoid of foliage, the plant dries up and perishes. Toto is absorbed in relatively small amounts by the roots. Its effect increases with the increase of temperature and moisture in the atmosphere.

Table of use :-

Major Crops	Controlled Weeds	Quantity (per acre)	Method of use
Cotton	Digera arvensis, Cyperus iria, Trianthema monogyna, Leucas aspera, Corchorus spp., Euphorbia spp.	500-800 ml	In the crop stage of 2 to 3 leaves, put a hood on the weeds growing in the middle of the rows and dissolve it in 200 litres of water and spray it directly.
Potato	Chenopodium sp., Angallis arvensis, Trianthema monogyna, Cyperus rotundus, Fumeria parviflora	800ml	Dissolve in 200 litres of water at the growing stage of 5-10 per cent potato and spray it on the weeds growing in the middle of the rows.
Maize	Cyperus iria, Cyperus rotundus, Commelina benghalensis, Amaranthus spp., Echinochloa spp., Trianthema monogyna	320-800 ml	In the crop stage of maize nut grass, Benghal dayflower / 2 to 3 leaves, put a hood on the weeds growing in the middle of the rows and dissolve it in 200 litres of water and spray it directly.

Major Crops	Controlled Weeds	Quantity (per acre)	Method of use
Paddy	Echinochloa crusgalli, Cyperus iria, Ageratum conyzides, Commelina benghalensis, Marsilea quadriofoliata, Brachiaria mutica	500-1600 ml	Before sowing/trans-planting dissolve weedicide in 200 litres of water Spray on the weeds.
Wheat	Grassy & Broad leaf weeds	1700 ml	Spray before sowing.
Grapes, Apples orchards	Narrow-leaved weeds, shrubs, etc.	800 ml to 1 liter	Dilute in 200 liters of water and spray directly on the weeds growing between the rows of fruit trees.

Precautions-

- While using Toto, its part should not fall on the green leaves, branches and stem of the main crop.
- At the time of its use for the control of weeds in the middle of row crops. Use a spray-hood.

Metaveer

(Metribuzin 70% WP)

Metaveer is a selective systemic herbicide. This chemical is absorbed by the leaves and roots of plants and disrupts their photosynthesis. The used of metaveer is done before the growth of grassy and broad-leaved weeds in crops like sugarcane, potato, wheat, soybean, etc. Use it within 2 weeks of sowing for best result.

Table of use :-

Major Crops	Controlled Weeds	Quantity (per acre)	Method of use
Sugarcane	Cyperus Rotundus, Cynodon Dactylon, Asphodelus Fistulosis, Checpodium, Convolvulus Arvensis, Portulaca Olarracea, Argalis Arvensis, Echinochloa Colorium, Doctyloctonium Agyptium, Chichoriumintbus, Pacherium Hystrophorus, Commelina spp	pre germination 600-1200 gram post germination 600-800 gram	Spray after 3 to 5 days of sowing or after 25 to 30 days of sowing by dissolving in 400 litres of water.
Potato and Tomato	Chenopodium Album, Triantherna Monogyna, Parthenium, Fumaria Parviflora, Melilctus spp. Phalaris Minor, Hysterophorus, Triantherna Portulacastrum, Dactyloctanium Aagypticulam, Cyanandropsis Pentaphylis, Amaranthus Viridis, Portulaca Oleracea, Digera Arvensis, Euphorbia Frustratea, Eleusina India, Echinochloa Colonum, Ageratum Conyzoidas, Selaria Glauca, Commonlina Benghalensis	300 gram	After 3 to 4 days of sowing the crop or till 5 cm of the crop plant should be diluted in 400 liters of water and sprinkled in the field.

Major Crops	Controlled Weeds	Quantity (per acre)	Method of use
Wheat	Phalaris minor, Chenopodium album, Melilotus spp.	Medium soil 100 gram and heavy soil 120 gram	35 days after sowing the crop dissolve in 200 - 300 litres of water and sprinkle in the field.
Soyabean	Digitaria spp., Cyperus esculentus, Cyperus campestiris, Borreria spp., Eragrostis spp.	200 -300 gram	12 days after sowing the crop dissolve in 400 litres of water and sprinkle in the field.

Precautions-

- Metaveer is phytotoxic to many crops including mustard, cabbage family, cucumber and melon clusters, spinach, lettuce, onion, garlic, sugerbeet, sunflower, linseed, tobacco, sweet potato, etc.
- There should be sufficient moisture in the field at the time of spraying Metaveer, otherwise give sprinkler irrigation till 6 to 12 ml.
- There is a possibility of damage to the main crop even if there is excessive rainfall (more than 12 ml) immediately after the use of Metaveer.
- While spraying Metaveer in the crop, stir the solution continuously so that it spreads evenly on the weeds.

Moto

(Metsulfuron Methyl 20% WP)

Moto is a post–emergent selective herbicide which is belongs to Sulfonyl urea group. It is absorbed by plants both through leaves and roots. It is mainly used for stubborn weeds like broad-leaf and wild spinach. Due to the effect of the moto, weeds hinder the production of essential proteins for plants.

Table of use -

Major Crops	Controlled Weeds	Quantity (per acre)	Method of use
Wheat	Chenopodium album, Melilotus indica, Lathyrus aphaca, Vicia sativa, Cirsium arvense	8 grams (1 unit) + 200 ml Safener	After 30 to 35 days of sowing of crop dissolve in 200 litre of water and use.
Sugarcane	Cyperus esculentus, Portulaca oleracea, Trianthema sp., Amaranthus viridis, Cleome viscosa, Solanum sp., Parthenium hysterophorus, Commelina benghalensis, Euphorbia sp., Digeria sp.	12 grams +800 ml Safener	dissolve in 250 litres of water and use
Paddy (Planted)	Cyperus rotundus, Spheanochlea spp., Fimbristylis sp., Ludwigia parviflora, Marsilea quadrifoliata	8 grams (1 unit) + 200 ml Safener	Use after dissolving in 200-250 liters of water

Important- Moto can be used in combination with weedicide and insecticide like Wheto. For hard-leaved weeds, use Moto at an interval of one week after using Weeza and Jeto.

Precautions -

- Do not use this chemical in intercropping of Mustard and gram with wheat or barley or any nearby broad leaves crop field.
- The effect of moto lasts for a long time in the soil, so don't use it by mixed with soil in crop rotation fields of Sunn Hemp, Sunflower, Maize etc.
- After spraying Moto, do not pour the cleaned water from the spray pump into the roots of any plant or tree.

Penveer

(Pendimethalin 30% EC)

Penveer is a selective herbicide for the pre-germination of weeds. It does not allow weeds to grow in plants by inhibiting their cell division. Penveer can be applied before most annual weeds have emerged. Penveer does not mix with water and pollutes groundwater. Due to the decomposition of penveer in nature after some time by sunlight and evaporation, it does not have any side effects on the next crop.

Table of use :-

Major Crops	Controlled Weeds	Quantity (per acre)	Method of use and warning
wheat, gram (irrigated) Pea, Zayed Moong	Chenopodium album, Melilotus alba, Portulaca oleracea, Phalaris minor, Poa annua	1.2 to 1.3 litres	within 2 days of sowing dissolve in 200 to 300 liters of water, make a solution and sprinkle.
Rice	Echinochloa colona, E. crusgalli, Fimbristylis miliacea, Marselia quadrifoliata, Alternanthera sessilis, Ammonia baccifera, Ludwigra parviflora, Eclipta alba, Cyperus difformis	Medium soil -1.3 litre heavy soil - 2.0 liters	Within 2-3 days of simple sowing or plantation mixed with the same amount of 50 to 60 kg of field soil and spread evenly. At the time of use, 3 to 4 cm of water should stand in the field for about 72 hours.
Cotton	Echinochloa spp., Euphorbia hirta, Amarnanthus viridis, Portulaca oleracea, Trianthema spp., Eleusine indica	1.2 to 1.6 litres	24- 48 hours after the sowing of the crop spray with the help of flat fan nozzle by dissolving in 200 to 250 liters of water after an hour or after the first irrigation.

Major Crops	Controlled Weeds	Quantity (per acre)	Method of use and warning
Pigeon pea, soyabean	Echinochloa spp., Euphorbia spp., Amarnanthus viridis, Portulaca oleracea, Trianthema spp., Eleusine indica, Digitaria sanguinalis, Digera arvensis, Amaranthus sp., Euphorbia hirta, Cyperus sp., Eragrostis sp.	1.2 to 1.3 liter	24- 48 hours after the sowing of the crop spray with the help of flat fan nozzle by dissolving in 200 litres of water after an hour or after the first irrigation.
Onion and garlic	Chenopodium album, Melilotus spp., Digitaria Sanguinalis, Anagalis arvensis, Eleusine indica, Echinochloa spp., portulaca oleracea	1.0 to 1.5 liter	Within the 2 days of sowing, along with 50-60 Kg soil from the farm, mix Penveer in the required amount and spread in the field evenly.
Chilli	Echinnochloa spp, Eleusine indica	1.0 to 1.5 iter	Until 4 days after plant sowing dissolve in 200 lit water and use.

Precautions -

- Before the use of Penveer in paddy crop, level the field surface evenly and after use keep water standing for 5-10 cm for at least one week.
- Penveer is toxic to bees, so do not spray it when the bees are active.
- Penveer should be sprayed with a knapsack sprayer or foot sprayer with a hose fitted with a flat fan or a flood nozzle.
- Do not use this penaveer in areas where fish farming (pisiculture/ aquaculture) is done along with paddy cultivation. Avoid inhaling spray vapours.
- Spray in the direction of the wind.
- Wash contaminated clothing and body parts thoroughly after spraying.
- Do not smoke, eat, drink and chew anything while spraying.
- Wear full protective clothing when spraying or mixing.

Pretilaveer

(Pretilachlor 50% EC)

Pretilaveer is a selective pre-germination herbicide. This chemical get quickly absorbed by seeds of weeds growing in the paddy crop, blocking the process of their cell division and not allowing them to flourish, due to which they are destroyed. Pretilaveer can be used in both pre-emergence and early post-emergence conditions for most grasses and broad-leaf annual weeds.

Table of use -

Major Crops	Controlled Weeds	Quantity (per acre)	Method of use
Rice (planted)	Echinochloa crusgalli, Echiniochloa colonum, Cyperus difformis, Cyperus iria, Fimbristylis miliacae, Eclipta alba, Ludwigia parviflora, Monochoria vaginalis, Leptochloa chinensis, Panicum repens	400-600 ml	Within 2 to 3 days of planting seedlings, sprinkle with 60 kg of field soil or mix it in 250 liters of water and sprinkle it evenly in the field.

Precautions -

- At the time of application of Pretilaveer, 3 to 4 cm of water should stand in the field for the next 72 hours.
- Make sure to use gloves or other protective measures while mixing Pretilaveer in the soil and spreading it in the field.

Veerkill 38

(2,4-D Ethyl Ester 38 % EC)

Veerkill 38 is a selective, systematic, post emergent herbicides of Phenoxyacetic group. It is used for the prevention of broad-leaf weeds. The roots and leaves of weeds. It gets absorbed and spreads throughout the plant, due to which the growth of plant cells becomes abnormal and the plant starts dying.

Table of use -

Major Crops	Controlled Weeds	Quantity (per acre)	Method of use
Maize	Trianthema monogyna, Amaranthus spp., Portulaca oleracea, Tribulus terristris, Boerhaavia diffusa, Euphorbia hirta, Cyperus spp.	Liter	Dissolve it in 180 litres of water and sprinkle it at the stage of 4-6 leaves of weeds.
Jawar	Cyperus iria, Striga spp., Digera arvensis, Convolvulus arvensis, Trianthema spp., Tridax procumbens, Euphorbia hirta, Phyllanthus niruri.	1-20 liter	Dissolve it in 170 litres of water and sprinkle it at the stage of 4-6 leaves of weeds.
Paddy (planted)	Echinochloa colonum, Echinochloa crusgalli	Liter	Dissolve it in 160 litres of water and sprinkle it at the stage of 4-6 leaves of weeds.
Wheat	Chenopodium album, Asphodelus tenuifolius, Fumaria parviflora, Melilotus alba., Spergula arvensis	500 to 800 ml	Dissolve it in 200 litres of water and sprinkle it at the stage of 4-6 leaves of weeds.
Sugarcane	Cyperus iria, Digitaria sp., Dactyloctenium, Aegyptiana, Digera arevensis, Portuluca oleeracea, Commelina benghalensis, Amaranthus sp., Convolvulus arvensis	1.50 to 2.0 liter	Dissolve it in 200 litres of water and sprinkle it at the stage of 4-6 leaves of weeds.

Precautions-

- Veerkill 38 should be shaken well before use.
- There should be sufficient moisture in the field.
- After use of Veerkill 38, the pump should be thoroughly washed and then cleaned with washing soda (0.50%) to remove its part from the sprayer.

Weedkill 508

(2, 4-D Dimethyl Amine Salt 58 % SL)

Weedkill 508 is a selective, systematic, post emergent herbicide and appears to be similar in action to other auxin-type of herbicides. It is used to control broad-leafed weeds growing in narrow-leaved crops. When this chemical is absorbed by the plants, it reaches the growing parts of the plant, due to which the plant starts dying due to abnormal growth of cells.

Table of use Quantity

Major Crops	Controlled Weeds	(per acre)	Method of use
Wheat	Chenopodium album, Asphodelus tenuifolius, Fumaria parviflora, Melilotus alba., Spergula arvensis	300 to 500 ml	Dissolve in 200-250 lit water and spray
Sugarcane	Cyperus iria, Digitaria sp., Dactyloctenium, Aegyptiana, Digera arevensis, Portuluca oleeracea, Commelina benghalensis, Amaranthus sp./Broad leaf weeds	2.50 Lit	Spray the weed after dissolving it in 200-250 liters of water at the stage of 4 to 6 leaves of the weed.
Potato	Chenopodium album, Asphodelus tenuifolius, Anagalis arvensis, Convolvulus arvensis, Cyperus iria, Portulaca oleracea/Broad Leaf weeds	1.4 Lit	Spray the weed after dissolving in 160 liters of water at the stage of 4 to 6 leaves of the weed
Maize	Trianthema monogyna, Amaranthus spp., Portulaca oleracea, Tribulus terristris, Boerhaavia diffusa, Euphorbia hirta, Cyperus spp.	350 ml	Spray the weed after dissolving in 160-200 liters of water at the stage of 4 to 6 leaves of the weed

Major Crops	Controlled Weeds	Quantity (per acre)	Method of use
Jowar		300 to 500 ml	Spray the weed after dissolving in 200-250 liters of water at the stage of 4 to 6 leaves of the weed.
Empty field without crop	Parthenium, Wild Mouth	1.8 Lit	Spray it after dissolving in 200-250 liters of water.

Precautions-

- Do not use this chemical if mustard and gram is intercropped with wheat and barley or if any broad leaf crop in grown nearby field.
- Weedkil 508 application should be avoided in wheat variety PBW-343.
- Weedkill should not be used in combination with weeza (Clodinafop), wheto (sulfosulfuran) and Zeto (phenoxyprop).
- After the use of Weedkill 508, the pump should be thoroughly washed and then cleaned with washing soda (0.50%) to remove its part from the sprayer.

Weeza

(Clodinafop Propargyl 15% WP)

Weeza is a selective, systemic post-emergence herbicide of aryloxyphenoxy propionate class. It effectively controls the Phalaris minor weeds and other grass in wheat crop. It is absorbed by the weeds immediately after spraying on the crop and the growth of weeds stops within 48 hours but it may take up to 2 to 3 weeks for the weeds to turn yellow completely. Therefore, it should be used in the early stage of weed growth.

Table of use -

Major Crops	Controlled Weeds	Quantity (per acre)	Method of use
Wheat	Phalaris minor, Poa annua, Cynodon dactylon, Alopecurus myosuroides and other weeds	160 gram (8 Packets of 20 gram)	In 30 to 35 days after sowing, spray the crop evenly by dissolving in 150 to 160 liters of water from a flat fennel

Important - For the prevention of both hard and wide weeds, using moto with Weeza gives good results.

- **Precautions-**
- Do not use weeza for barley crop.
- Allow the domestic animals to eat the fodder of the field treated with Weeza only after 3 to 4 days. Do not use it in crops grown for fodder.

Wheto

(Sulfosulfuron 75 % WG)

Wheto is a systemic, selective, post-emergence herbicide of sulfonylurea group which is absorbed by the roots and leaves. After spraying, this chemical is absorbed by the leaves and roots of the weed plant and stops the growth of the plant. By its absorption by weeds, weed plants stop making amino acids,due to this the growth of their cells stops and they get discoloured and destroyed. It is used for the control of both broad and narrow weeds.

Table of use

Major Crops	Controlled Weeds	Quantity (per acre)	Method of use
Wheat	Phalaris minor, Chenopodium spp. and Melilotus alba	13.5 grams + 500 ml safener	Spray the crop after dissolving it in 80-100 liters of water within 30 to 35 days of sowing.

Important - In areas of Phalaris Minor (Mandusi) or in fields with stubborn broad-leaf weeds like Rumex dentatus(Wild Spinach) , spraying the recommended amount of Moto with Wheto gives the expected results.

Precautions -

- Do not use Wheto in combination with chemical fertiliser solutions or with any other non-ionic surfactant or acidic substance.
- This chemical is slightly toxic to aquatic animals, so do not let the water of the spray pump and tank into the reservoir after use.
- If broad-leaved crops like mustard, sunflower etc. are planted along with the wheat field, then wheto should not be sprayed.
- After the harvest of wheat, the fertile crop jowar and maize should not be taken.

Penveer Plus

(Pendimetheline 38.7% CS)

Pendimetheline 38.7% C.S. is selective herbicide used in soybean, cotton, chilli and onion, which controls the sensitive one-year-old grasses and broadleaf weeds on germination.

Table of use :-

Major Crops	Controlled Weeds	Quantity (per acre)	Method of use
Soybean	Echinochloa colonum, Dinebra arabica, Digitaria spp, Brachiaria spp., Eleusine indica, Portulaca oleracea, Amaranthus viridis, Euphorbia geniculate, Cleome viscosa	600-700 ml	Spray it before sowing by dissolving it in 200 liters of water.
Cotton	Digitaria spp, Echinochloa colonum, Dinebra arabica, Eragrastis minor, Lantana camara, Brachiaria spp., Portulaca oleracea, Amaranthus viridis, Commelina benghalensis	600-700 ml	Spray it before weeds growing by dissolving it in 200 liters of water.
Pepper	Commelina benghalensis, Parthenium hysterophorus, Digera arvensis, Phalaris minor Parthenium hysterophorus Echinochloa colonum, Dinebra arabica, Brachiaria spp., Portulaca oleracea, Amaranthus viridis,	600-700 ml	Spray it before weeds growing by dissolving it in 200 liters of water.

Major Crops	Controlled Weeds	Quantity (per acre)	Method of use
Onion	Echinochloa colonum, Cyperus rotundus, Cynodon dactylon, Dinebra arabica, Euphorbia geniculate, Commelina benghalensis	600-700 ml	In 200 litres of water spray before growing weeds
Groundnuts	Echinochloa colona, Digitaria sp., Commelina benghalensis, Portulaca spp.	600-700 ml	In 150 litres of water spray before growing weeds
Mustard	Commelina benghalensis, Digera arvensis, Amaranthus virdis	350 ml	In 150-160 litres of water spray before growing weeds
Cumin	Portulaca spp., Digitaria sp., Digera arvensis	600-700 ml	In 150 -200 litres of water spray before growing weeds

Penveer Plus (Pendimetheline 38.7% CS) does not control perennial or well-established weeds.

Precaution -

- Toxic to aquatic organisms, therefore should not be used near water bodies, aquaculture.
- Before using Penveer Plus, ensure that the field is well prepared and be free from lumps.
- Do not spray in the opposite direction of the wind.
- Use a knapsack foot sprayer with a flat fan nozzle to spray Penveer Plus. Clean the sprayer thoroughly before spraying.
- Complete protective clothing such as rubber gloves, while using Penveer Plus in the field.
- Boots, mask and full or rubber apron or hat etc. should be used.

Pridо

(Pretilachlor 37% E.W.)

It is a selective herbicide and is readily absorbed by seedling and to a some extent by roots of germinated weeds. It inhibits cell division and inhibits the synthesis of long chain fatty acids, resulting in their destruction.

Table of use :-

Major Crops	Controlled Weeds	Quantity (per acre)	Method of use
Paddy	Echinolchloa crusgalli, Echinochloa colonum, Cyperus difformis, Cyperus iria, Digitaria spp, Fimbristylis miliacea, Eclipta alba, Ludwigia purviflora, Monochoria vanginalis	600-750 ml	Dissolve the recommended quantity in 200 litres of water and apply within 0-3 days after transplanting.

Important -

- Uttam Prido is a selective Herbicide used in transplanted paddy before germination of weeds.
- Water should not be filled in the field for 24 hours after the use of Uttam Prido.
- Uttam Prido controls weeds, broadleaf and sedge weeds.
- Uttam Prido dissolves quickly and spreads rapidly as well as infects and destroys weeds.
- Uttam Prido is useful and safe for both the crop and the environment.
- Uttam Prido does not cause any adverse effect on the crop like yellowing etc. but provides greenness to the crop.

Precautions -

- It is recommended to use Uttam Prido between 0-5 days after transplanting of paddy.
- After using Uttam Prido, water should not be given to the field for 24 hours.

Pinoxa- 51

(Pinoxaden 5.1 % EC)

Pinoxa-51 is a selective post-emergence weedicide that is recommended for the control of grass-fed weeds such as Phalaris minor (Mandusi) and Avena fatua (wild oats) in wheat crop. It contains 5.1% Pinoxaden as an active ingredient and is present in one litre of substance equivalent to 50 grams.

Table of use -

Major Crops	Controlled Weeds	Quantity (per acre)	Method of use
Wheat	Stellaria media / Phalaris minor, Avena fatua	320 – 360 ml	Dissolve in 100-150 liters in water and spray the crop at 30-35 days stage

Recommendation for use:
Use this herbicide 30-35 days after sowing, when most of the weeds have grown or when Stellaria media (Common Chickweed) and Avena fatua (wild oats) are at 3-5 leaf stage, then apply it in the recommended dosage.

Fillip

(Bispyribac Sodium 10% SC)

Fillip is a post emergence broad spectrum herbicide. Bispyribac-Sodium is the active ingredient. It effectively controls most of the weed species affecting both nurseries and planted paddy crops.

Table of use -

Major Crops	Controlled Weeds	Quantity (per acre)	Method of use
Paddy (Nursery)	Echinochloa crusgalli, Echinochloa colonum	80 ml	120 liters Spray with water after 10-12 days from sowing
Paddy (Planted)	Cyperus difformis, Cyperus iria, Ischaemum rugosum	80 – 100 ml	120 liters Spray 10-14 days after transplanting with water
Paddy (Planted)	Fimbristylis miliacea, Eclipta alba, Ludwigia parviflora, Monochoria vaginalis, Alternanthera philoxeroides, Sphenoclcea zeylenica, Echinochloa sp.	80 – 100 ml	120 liters Spray with water after 10-15 days from sowing

Precautions-

- Drain the water from the desired area before using the weedicide.
- After one day of treatment, fill the field again with water and keep the water in the treated area for 10 days.

Fluzi

(Fomesafen 11.1 % EC + Fluazifop-p-butyl 11.1 %)

Fluzi is a selective post-emergence herbicide. It is a broad-spectrum herbicide that controls broadleaf weeds.
After spraying, weed growth stops within 2-3 hours and the result can be seen clearly within 3-7 days.

Method of work

Uttam Fluzi inhibits lipid synthesis and kills weeds by affecting cell membranes.

Table of use -

Major Crops	Controlled Weeds	Quantity (per acre)
Soyabean	Echinochloa colonum, Digitaria sp., Eleusine indica, Dactyloctenium Aegyptium, Brachiria Spp., Chenopodium album, Digera arvensis, Trienthema portulacastrum, Phyllanthus niruri, Aclypha indica, Dinebra arbica	400 ml/acre
Groundnut	Echinochloa colona, Digitaria sp, Eleusine indica, Dactyloctenium aegyptium, Commelina benghalensis, Indigofera glandulosa, Chloris barbata, Trianthema sp., Digera arvensis, Cleome viscose, Phyllanthus niruri	400 ml/acre

Note: Dissolve 400 ml of Uttam Fluzi in 200 liters of water and spray it on one acre area.

Temone

(Tembotrione 43% SC)

Temone is a powerful post-germination herbicide used in maize crop to control broadleaf and grassy weeds.

Working method

Tembotrione 43% SC is the active ingredient in Temone, it inhibits the activity of 4 (4 HPPD) enzymes which produce carotenoids (plant pigments) in the plant, resulting in a decrease in chlorophyll production thus have an opposite effect on the process of photosynthesis and the plants dry up. After a few days of spraying Temone, its effect is visible on weeds and they are effectively controlled.

Time to use

- 12-15 days crop stage or 3-4 weed leaf stage.

Method of use

Crop	Controlled weeds	Quantity of use
Maize	Pathar Chatta, Sanwa, Bansi, etc.	115 (ml/acre)

Note: Spray 115 ml of Temone with 400 ml of U-mix (surfactant) in 200 liters of water and spray in one acre area. Use the Knapsack sprayer with floodjet nozzle.

Features and Benefits:

- Temone uninterruptedly sets new benchmarks in crop protection.
- Temone ensures a wide spectrum of performance.
- Temone works fast and ensures proper results.
- Temone provides maximum Convenience - Effectively control weeds from immediate germination to post germination.

Flufo

(Oxyfluorfen 23.5 % EC)

Flufo is a selective herbicide containing active ingredient Oxyfluorfen 23.5% EC which is used for the prevention of grass-like and broad-leaf weeds occurring in paddy, tea, potato, onion, groundnut and mentha.

Table of use -

Major Crops	Controlled Weeds	Dose (per acre)	Working method
Rice (upright sowing)	Echinochloa colona, Echinolchloa crusgalli, Cyperus iria, Eclipta alba	260-400 ml	Dilute 200 liters of water and spray.
Potato	Commelina benghalensis, Lepidium didymium, Trienthema portulacastrum, Cyperus difformis, Christella dentata	170-340 ml	
Mentha	Echinochloa colonum, Cyperus difformis, Solanum sp., Amaranthus sp., Sphaenoclea sp., Anagallis arvensis, Chenopodium album, Commelina bengalensis, Digitaria spp., Eclipta alba, Euphorbia spp., Ludwigia parviflora, Portulaca oleracea	360 ml	
Onion	Chenopodium album, Amaranthus sp.,	170-340 ml	
Groundnut	Echinochlola colonum, Digitaria spp	170-340 ml	
Tea	Digitaria spp, Imperata cylindrica, Aegopodium podagraria	260-400 ml	

Instructions for use:-

- Use the sprayer with flood jet or flat nozzle.
- Keep the nozzle at the same height from the ground.
- Spray the area in a straight line at a regular speed.

Time of use: Spray after complete weed germination in direct sown paddy crop and after weed germination in other crops.

Uttam Ameto

(Ametrine 80% WDG)

Uttam Ameto is a new selective herbicide used in the early stages of weed germination in sugarcane crop which provides broad spectrum control of grasses and broad leaf weeds.

- Uttam Amato S- belongs to the group of chemicals Triazines which inhibit the photosynthetic reaction in weeds.
- Uttam Ameto controls both broad leaf and narrow leaf weeds present in the crop and also prevents the growth of future weeds. It is compatible with 2, 4-D.
- It protects sugarcane from competition from grasses and other weeds during the initial slow growth period of sugarcane.

Crops: Sugercane

Experiment Quantity: Use 1 kg per acre by dissolving it in 200 liters of water

Time: At 2-4 leaf stage of the weed

Uttam Jojo

(Fenoxaprop-p-ethyl 6.7% EC)

Uttam Jojo is a selective post-emergence herbicide recommended for the control of grass weeds, especially barnyard grass. Used in direct seeded and transplanted rice. It contains arginine as an active ingredient.Contains Fenoxaprop-P-ethyl, which helps in foliar dispersion of the herbicide at the time of application. Uttam Jojo is absorbed by the leaves and stems of plants and translocated systemically. It primarily inhibits the synthesis of fatty acids in the meristem tissue of grass weeds. It provides effective grass control and controls a wide range of weeds. Excellent plant selectivity and safe for crops at recommended dosage.

Major crop: Paddy (Planting and direct sowing)
Weeds to be controlled: Echinochloa sp. (barnyard grass), banari, chinyari, baru, golden grass, takri grass, sawa etc.

Speciality
Uttam Jojo is effective and has a wide range of weed control. It is also excellent in plant selectivity and is safe for crops at recommended dosage. Uttam Jojo is absorbed very fast in the plant system And Uttam Jojo does not wash off even if it rains three hours after spraying.

Usage Quantity : Spray 325-350 ml per acre by dissolving it in 150-200 liters of water.
spraying timeL: Use when weeds are at 2 to 5 leaf stages.

Uttam Meraki

(Pyroxasulfone 85% WG)

Uttam Meraki is a selective weedicide containing 85% (W/W) pyroxasulfone as active ingredient for pre-emergence application in wheat crop. It controls Phalaris minor, a major problem weed in wheat. Due to development of resistance to some herbicides, Manjusi could not be controlled effectively in the past few years.But the Uttam Meraki herbicide can effectively control the aphids from the very first day of use. Uttam Meraki belongs to new generation of chemicals having excellent residual action due to which active ingredients remain in soil for longer duration and suppress weed growth in the crop for a long period.

Working Method:

It acts as a residual herbicide and is absorbed through the growing roots of Phalaris and controls the population and growth of aphids by thinning their roots. So that it cannot compete with wheat. The use of Uttam Meraki significantly reduces the biosynthesis of very long chain fatty acids (VLCFA) of the weed, thereby effectively controlling weeds in the crop for a long period.

Usage Table-

Crop	weeds to control	Application quantity (per acre)
Wheat	Mandusi (Gulli Danda)	60 gram
Maize	sawa grass, goose grass thousand grain	60 gram
Soybean	Wild rice, Jhurua grass, Murgachoti grass, Stone breaker, Amarnath, Garlic	60 gram

Method of use and time:

Dissolve Uttam Meraki 60 gm in 200 liters of water per acre and spray uniformly within 0-3 days of sowing.

Note:-

- For long term weed control of Uttam Meraki, it is important to irrigate before 21st day in all types of soils. Do not walk in wet fields after irrigation, otherwise weeds will germinate.

- Ensure uniform spraying over the entire soil surface using 200 litres of water for 1 acre.

- Before using Uttam Meraki, the field should be level and free from clods and residues of previous crops

Uttam Atlas

(Quizalofop Ethyl 7.5% Imazethapyr 15% EC)

Uttam Atlas is an endocrine herbicide made by combining two types of chemicals. After spraying, it is absorbed by the leaves and roots of the plant and controls weeds by inhibiting protein and DNA synthesis. Uttam Atlas is capable of controlling many grasses, broad leaf weeds and sedges in soybean, groundnut and other pulse crops. It maintains weed control for a long time and remains safe for the next crop as well.

Properties:-

Uttam Atlas controls both types of broad leaf and narrow leaf weeds present in the crop and also prevents the growth of weeds growing in the future. It gets completely absorbed within 1-2 hours of spraying and even if it rains thereafter, there is no reduction in its efficiency.

Crops:-

Soybean, groundnut and all other pulse crops

Amount of use:- Spray 175 ml per acre by dissolving it in 150-200 liters of water.

Time: 5-15 days after sowing or at 2-3 leaf stage of the weed

Uttam Chronos:-

(Pyrithiobac Sodium 10% EC)

Uttam Kronoz is the first highly selective herbicide for cotton in India. It contains active ingredient as Pyrithiobac Sodium, which is effective in controlling a wide range of broadleaf weeds. It is used to control broadleaf weeds. This herbicide acts after weeds have emerged and prevents the synthesis of essential amino acids and proteins, thereby killing the weeds.

Usage Table:-

Main Crop	Weeds to control	Quantity (per acre)	method of experiment
Cotton	Broad-leaved weeds like stonecrop, bathua, amaranth, white chicken, surwali lahsua etc.	250&300 ml	Dissolve it in 200 litres of water and spray on weeds when they are at 2 to 3 leaf stages.

Specific:-

Uttam Kronoz Safe for Cotton Controls all problematic broadleaf weeds in cotton.

Uttam Cronos does not have any adverse effect on the soil after cotton harvesting, and is safe for subsequent crops.

Uttam No Grass

(Glufosinate Ammonium 13.5% SL)

Uttam No Grass is a new generation non-selective intravenous herbicide for effective control of weeds. It is used for pre-emergence control of annual and perennial broadleaf weeds and grasses.This herbicide acts by non-selective contact with some endocrine action. Translocation occurs only within leaves and is applied primarily from the leaf base to the leaf tip. In terms of its effectiveness, Uttam No Grass has a rapid action on weeds for up to three days, effectively killing them.

Usage Table:-

Main Crop	Weeds to control	method of experiment
Tea	Doobgrass, Motha, Nathai Chudi, Cogongrass, Crabgrass Kanakoua grass Chickweed Yard grass, Hiloghas	1-1.3 liter
Cotton	Wild rice, dubgrass, motha, makara grass, footgrass	1-1.3 liter

Method and time of use :- Dissolve Uttam No Grass 1-1.3 liters per acre in 150-200 liters of water and spray on weeds during their active vegetative growth stage and flowering stage.

Note :-

- Weeds should be in an active growing stage – 4-6 inches high.
- Minimum 6 hours rain free period after spraying
- Ensure proper spray coverage of weeds with adequate spray volume.
- Effective at weed control for a wide range of crops and has no side effects on plants or the environment.
- Uttam No Grass herbicide should not fall on crops during use.

Uttam Nodachi

(Topramazon 336 G/LSC)

Uttam Nodachi is a selective herbicide which is a powerful post germination herbicide in maize crop which is capable of controlling broad leaf and narrow leaf weeds.Uttam Nodachi provides broad spectrum with complete crop protection. It is a selective herbicide belonging to the phenyl pyrazolyl ketone family of herbicides.

It works by inhibiting the enzyme (4-hydroxy pyruvate dioxygenase) which results in whitening of leaves, stunted growth and ultimately death of the weed.

Usage Table:-

Main Crop	Weeds to control	method of experiment
Maize	Goosegrass, Yardgrass, Cabrassgrass, Madana, Makara grass, Wild Paddy, Congress grass, Wild Amaranth, Deer Khuri, White Chicken Grass, Chanapatapar, Peacock Plum Grass	30–40 ml. MSO adjuvant @ 2 ml per liter of water.

Method and time of use :-

Dissolve Uttam Nodachi 30-40 ml in 150 liters of water per acre and spray it at 2-5 leaf stage of the weeds.

Uttam Orin

(Propaquizafop 10% EC)

Uttam Orin is a herbicide of the aryloxyphenoxy propionates family. It is used post germination for control of a wide range of annual and perennial grasses. Uttam Orin is used for selective weed control in many broadleaf crops, spraying should be done at 2-4 leaf stage of the weed for proper results. Uttam Orin is an endocrine herbicide, Which is quickly absorbed by the leaves and transferred to the growth point of the leaves and roots of the weeds. Rainfall 1 hour after application does not affect the product activity.Uttam Orin is friendly and safe for beneficial insects and the environment.

Usage Table:-

Main Crop	Weeds to control	quantity per acre	method of experiment
Soybean	Barnyard grass, Big Cabbage grass, Makara grass, Goosegrass	200-300 ml	200-300 liters of water at 2-4 leaf stage of weed
Urd	Wild rice, bamboo grass, makara grass, goose grass	300-400 ml	
Onion	Small Barnyard Grass, Wild Rice, Sanwa, Jharwa, Bamboo Grass, Makra Grass, Gulli Danda	250 ml	Dissolve it in 200 litres of water and spray when the weed is at 2-4 leaf stage.
Jute	Bamboo grass, wild rice, goosegrass	250 ml	
Cotton	Wild rice, bamboo grass, makara grass, goose grass, dube grass	250 ml	
Groundnut	Wild rice, bamboo grass, makara grass, goose grass	250 ml	

Uttam Filia

(Diclosulam 84% WG)

Uttam Philia is a highly effective triazolopyrimidine sulfonamide group selective and penetrating herbicide, which is used in soybean crop within 3 days of sowing or before germination of weeds. Due to excellent philia infiltration, it provides better control of major grasses and motha species weeds as well as major broadleaf weeds in soybean. Uttam Philia inhibits acetolactate synthase enzyme (ALS) and protein synthesis in weeds, thereby effectively controlling the weeds.

Usage Table:-

Main Crop	Weeds to control	quantity per acre	method of experiment
Soybean	Deela wala motha, umbrella motha, Kanakaua, booti, lesua, wild rice	10.48-12.36 grm	Dissolve recommended quantity in 200 liters of water and spray evenly within 0-3 days of sowing.
Groundnut	Amaranth, Carrot Grass, Stone Chatta, Motha, Sanwa or Wild Rice	10.48-12.36 grm	

features:-

- Uttam Philia controls the weeds before they emerge above the soil surface, thus causing no harm to the crop.
- It is also safe for upcoming crops(wheat and gram).
- Its use is capable of providing effective control of weeds.

Uttam Whemo

(Sulfosulfuron 75% Metsulfuron 5% WG)

Uttam Whemo is an inoculum herbicide used for effective control of Gulli Danda and broad leaf weeds in wheat crop. It is a combination of two herbicides, Sulfosulfuron and Metsulfuron. Which inhibits the enzyme acetolactate synthase, which is essential for the biosynthesis of branched-chain amino acids (BCAAs) in plants. This inhibition causes disruption of plant cell division and growth. Uttam Whemo is absorbed by the leaves and roots and translocated throughout the plant. This allows control of weeds that are difficult to control with contact herbicides. Its application is simple and effective.

Usage Table:-

Main Crop	Weeds to control	quantity per acre	method of experiment
wheat	Gulli danda, Bathua, Sainji, Chatri Matri, Krishnaneel, Rari, Leh	16 g (one unit) 500 ml Safener	Dissolve it in 100-200 litres of water and spray within 30-35 days of sowing the crop.

Uttam Meso Trine

(Mesotrione 2.27% + Atrazine 22.7% SC)

Uttam Meso Trine is an effective herbicide containing Mesotrione 2.27% and Atrazine 22.7% as active ingredients. It is a selective herbicide which does not harm the crop but completely kills the weeds. It is used for the control of both grass group and broad leaf weeds in maize and sugarcane crops.

It works by spreading throughout the plant (systemic) and can be used both before weeds emerge (pre-emergence) or after weeds emerge (post-emergence). This is a premix formulation, which is a combination of two effective chemicals. This makes weed control more effective, reducing the hassle of mixing different chemicals and the possibility of mistakes caused by them. Apart from saving time, it also provides an economical solution for weed control.

Usage Table –

Major Crop	Weeds to be controlled	Quantity (per acre)	Method of Application
Maize	Santhi, thorny amaranth, motha, patharchatta, crab finger grass, crab grass, maize grass, sanwa grass	1.4 litre	Dissolve it in 200 litres of water and spray evenly at the 3-4 leaf stage of the weed.
Sugarcane	Santhi, patharchatta, crab finger grass, crab grass, maize grass, sanwa grass, motha, wild amaranth, makoy (Black Nightshade), gokharu		

Product Characteristics –

Ÿ It is extremely effective in the control of both broad leaf weeds and grass species.
Ÿ Weed control on a large scale.
Ÿ Effective for a long time.
Ÿ Easy to use and economical.
Ÿ This saves time, labour and cost.
Ÿ Even if it rains within 2-3 hours of application, this chemical is absorbed by the plants and accordingly weed control remains effective. Light or normal rain does not have any significant impact on its effect.

Note -

Ÿ Follow safety instructions when using this herbicide.
Ÿ Keep it out of reach of children.
Ÿ Read the label carefully before using it.

Uttam Pyrazen

(Pyrazosulfuron Ethyl 10% WP)

Uttam Pyrazen, a selective herbicide, which does not harm the entire crop but completely kills the weeds. It is a broad-spectrum herbicide, Hence it is used for the control of all the three types of weeds in rice crop i.e. grasses, motha groups (sedges) and broad-leaved weeds. It is absorbed in all the weeds and works effectively (systemic) and is used at the pre-emergence stage. Weed control symptoms start appearing 1 to 3 weeks after spraying. During this time the activity of the weeds stops and they do not compete with the crop for nutrients and water. This gives the crop enough resources to grow and has a good effect on production.

Usage Table –

Major Crop	Weeds to be controlled	Quantity (per acre)	Method of Application
Planted paddy	Ludwigia, water hyacinth, motha, umbrella motha / jauria nanka and betel leaf	40-60 grams	Dissolve it in 200 litres of water and spray evenly.

Use -

Ÿ It can be sprayed 3-7 days after transplanting paddy.
Ÿ It can be mixed in water or sprayed by mixing it in sand.
Ÿ Use mixture of 80 to 100 grams per acre.

Note –

Ÿ Follow safety instructions when using this herbicide.
Ÿ Keep it out of reach of children.
Ÿ Read the label carefully before using it.

Uttam Apna 71

(Glyphosate 71% SG)

Uttam Apna 71 is a non-selective, post-emergence herbicide, i.e. it controls all types of weeds such as annual, perennial, grass group and broad leaf weeds and it is used after the weeds have emerged. It is specially used in tea plantations and non-crop areas. It is systemic herbicide, and it gets absorbed from the leaves of the weed and spreads throughout the plant to kill it.

Usage Table –

Major Crop	Weeds to be controlled	Quantity (per acre)	Method of Application
Tea and non-crop areas	Khokali, Haritmanjari, Mahkua Chicory, Lahasua, Doob Grass, Crab Grass, Motha Carabao Grass etc.	1.2 Kg	When the weeds are at 6-8 inches height stage, mix it in 200 liters of water and spray.

Precautions -

- This herbicide is non-selective, that is, it can harm both the crop and the weeds. So spray it only on the weeds and avoid applying it on the leaves of the crop.
- Spraying on a windy day can cause the herbicide droplets to fly in the air and fall on the crop or nearby plants and cause damage to them. Therefore, herbicide should not be sprayed in such conditions.
- Do not mix with any fungicide or insecticide.
- Use in the morning or evening to prevent evaporation.

Uttam Vigil

(Diuron 80% WP)

Uttam Vigil is a herbicide used to control both annual and perennial grassy and broad leaf weeds in a wide range of crops such as wheat, sugarcane, rubber, banana, maize etc and in non-crop areas.

Its application is mainly done in the soil where it is absorbed by the roots of the weeds and interferes with their photosynthesis.

This herbicide remains active in the soil for some time and maintains its effectiveness.

Due to which it is effective in controlling weeds before they emerge or in their early stages.

Usage Table –

Major Crop	Weeds to be controlled	Quantity (per acre)	Method of Application
Cotton	Amaranth (Chaulai), wild spinach, kiran khuri, wild foxtail millet, fingergrass, small dhatura, pyaji	400-480 grams	Spray by dissolving in 250 liters of water before weeds emerge or in the initial stages after weeds emerge.
banana	chamal motha, kankauwa or krishna grass	800 grams	
Rubber	Grass group and broad leaf weeds	800-1600 grams	
Grape	Hurhur, mathua, motha, big dudi, thorny amaranth / nettle amaranth, amaranth, neelkamal, small dhatura, chittapapra, pyaji	800 grams	
Maize	Chamal motha, barnyard grass, makda grass / bachla grass	800 grams	Spray by dissolving in 240 liters of water before weeds emerge or in the initial stages after weeds emerge.
Sugarcane	Chamal motha, water spinach, sanwa grass, kana kana, amaranth, hiran khuri	800-1600 grams	
Orange	Chamal Motha, Gokharu, Lahasua, Chanchani, Badriya, Kach Ri	1000-2000 grams	

Characteristics -

Ÿ It provides excellent control over variety of grass species when adequate moisture is present.
Ÿ It provides excellent control over variety of grass species when adequate moisture is present.
Ÿ It is useful for controlling weeds before emergence or in the early stages after emergence.
Ÿ Uttam Vigil controls most weeds even in the early post-emergence stage (1 to 3 leaves).
Ÿ Uttam Vigil is slightly toxic to animals and can cause skin irritation, so be careful while using it and must use protective equipment like gloves, mask, goggles etc.

Note -

Ÿ Follow safety instructions when using this herbicide.
Ÿ Keep it out of reach of children.
Ÿ Read the label carefully before using it.

Uttam Fortis

(Haloxyfop-R-methyl 10.5% EC)

Uttam Fortis is a systemic herbicide that is absorbed by the plant and kills it. It is used to control annual and perennial weeds of the grass group. It is especially effective in controlling narrow-leaf grassy weeds in broad leaf crops.

Usage Table –

Major Crop	Weeds to be controlled	Quantity (per acre)	Method of Application
Soybean	Bamboo leaf, Takri grass, Swank, Makra, Bird seed	400-500 grams	Dissolve in 200 liters of water and spray evenly.
Onion	Swanki, bamboo leaf, wild jhangora, khabal grass/doob grass	400 grams	
Urad	Wild jhangora, Makra, doob grass, takri grass	400 grams	
Mentha	Wild jhangora, Makra, takri grass, para grass,	400 grams	
Cotton	Sanwa, doob grass, Makra	400 grams	

Uttam Termout

(Halosulfuron Methyl 75% WG)

Uttam Termout is a selective herbicide that does not harm the crop but completely kills the weeds. It acts by spreading throughout the weed plant (systemic) and it is used after the weed has emerged (post-emergence). It controls motha in crops like sugarcane and maize.

Usage Table –

Major Crop	Weeds to be controlled	Quantity (per acre)	Method of Application
Sugarcane	Motha	32.36 grams	15-20 days after sowing or at the second to third irrigation, spray on weed at 3-6 leaf stage by dissolving it in 150 litres of water.
Maize	Motha	36 grams	
Bottle gourd			

Note -

- To eliminate motha grass, spray when motha grass plants have 3 to 4 leaves, there is good moisture in the field, and your crop is about 30 to 40 days old.
- While spraying, use flat fan or flood jet nozzle, so that the herbicide spreads evenly throughout the field.
- It is useful for controlling weeds before emergence or in the early stages after emergence.
- 15 days after spraying, the leaves of motha grass will start turning yellow and their edges will start burning. Motha grass will be completely controlled within 30 days.

Note -

- Follow safety instructions when using this herbicide.
- Keep it out of reach of children.
- Read the label carefully before using it.

Uttam Pyrifop

(Pyrithiobac Sodium 6% + Quizalofop Ethyl 4% EC)

Uttam Pyrifop is a selective, post-emergence herbicide which kills only weeds without causing any harm to the crop, and it is sprayed after the weeds have emerged. It effectively controls narrow and broad leaf weeds in cotton crop. Its active ingredient enters the plant through leaves and roots by systemic action and kills the entire weed. Spraying is done when the weed is at 2 to 4 leaf stage, as it is most effective at this stage and controls all types of weeds.

Usage Table –

Major Crop	Weeds to be controlled	Quantity (per acre)	Method of Application
Cotton	Punarnava, Chanchali, Bara Sarpot, Takri, Silly Mili	400-500 ml.	When the weed has 2-3 leaves, dissolve it in 200 liters of water and spray evenly.

Characteristics -

Ÿ Pyrifop provides long term weed control of 25 to 30 days Uttam after application.

Ÿ It doesn't last long in the soil, so the chance of harming the environment is minimal.

Precautions -

Ÿ Uttam Pyrifop should be used while wearing protective equipment and sprayed away from water sources to protect the environment and water sources.

Insecticide

Insecticide

Indian farmers incur a loss of 1200 to 1800 crore rupees every year due to harmful insects in crops. The use of insecticides has become necessary to keep the damage caused by pests in the crops at a low level. Knowledge of their effect and composition is very helpful in making the scientific and logical choice of pesticide chemicals. The currently available insecticides are classified according to their effect and chemical composition as follows.

Classification of Insecticides:

a According to the effect of the Toxin

a **Contact Insecticides -** With contact by insects, the venoms of this class enter their skin and outer shell through the intersegmental membrane (intersegmental membrane), tarsal of feet and respiratory openings (spiracles). Their effect is on the nervous system, blood circulation and muscle functioning of insects. The effect of Contact Toxic is found in most of the insecticides currently in use.

a **Systemic Insecticides -** By intake of these chemicals by insects, they die due to the spread of poison in their body. Most of the inorganic and metallic ones with the effect of only stomach poison and such poisons are not currently used in agricultural work. Most of the synthetic insecticides currently in use have both contact and systemic effects on insects.

a According to the chemical composition

a **Inorganic insecticides -** Before the advent of synthetic insecticides, crops and grains were protected from insects by the use of elements such as blue, crushed, mercury, sulfur etc., but at present, they are not a used.

a **Botanical insecticides -** Plants, flowers, seeds, roots, etc. parts of plants are used for the control of pests. Among these, neem, pyrethrum, sabadilla, rotenone, tobacco etc. were used before the development of chemical insecticides. Presently Neem (seeds and oil), Karanj (seeds), Garlic (sat), Sharifa (seeds) etc. are used in organic farming.

3. **Biological insecticides -** The use of various types of fungi, bacteria, viruses, parasitic and predatory insects and nematodes etc. capable of spreading disease in insects, is kept below the economic damage limit.

4. **Chemical Insecticides -** The discovery of DDT after World War II have properties of insecticides in chemistry (1939) which opened new doors for the control of pests. After this, many chemicals have been invented one after the other for crop and human protection from pests.

i **Chlorinated hydrocarbons -** BHC, lindane, aldrin, chlorodyne, heptachlor, etc. Due to the ill effects of these chemicals on the environment and its toxin staying in the land and water for a long time, all agricultural activities except linden are banned. Stembo (fipronil) under the chlorinated hydrocarbon class is an effective insecticide in the control of pests such as harmful stem borers and underground termites in paddy and sugarcane crops of the subclass of Cyclodane.

ii **Organophosphate -** Insecticides of this class are contact and systemic toxins affecting the nervous system of insects. It contains chemicals of some systemic nature and chloroveer touch and stomach poison.

iii **Carbamate -** In addition to Calvo, Carbaryl, Ethofencarb, Aldicarb etc. are touch and stomach poisons which affect the nervous system of insects and destroy them.

iv **Synthesized pyrethroids -** developed by synthesis of the chemical structure of the botanical insecticide pyrethrum. This insecticide is capable of destroying insects in a short time by having the effect of a sodium channel modulator. Fenveer, Lambda-Double, Lambda-Strong, Toro 10 etc. are the main insecticides of this class.

v **Oxydiazine -** Carbo, Explicit is the main insecticide of this class. It acts as a voltage based sodium channel blocker in insects which leads to the death of insects.

vi **Neonicotinide -** The major insecticides in this class are Acto, Imidaveer, Thiomethexim etc. chemicals of this class, being absorbed by the plants, are particularly effective on sucking insects. These chemicals have an adverse effect on the acetylcholine receptors of insects, leading to their rapid death.

vii **Phenyl Pyrazole -** Stembo is the main insecticide of this class. As a result of eating the plants treated with this chemical, insects that gnaw on the stem, leaves, flowers etc. and suck the juice from them, get nausea, seizures and finally they die due to paralysis.

viii **Insect Growth Regulator (IGR) -** Bruno is the main insecticide of this class. The growth regulatory elements of these chemicals inhibit the process of transformation of the minors of insects to their next stage.
In the absence of normal growth, insects die without completing their life cycle. These types of insecticides are completely environmentally friendly.

Precautions for the use of insecticides

The toxic effect of insecticide is not only on insects but also on human beings including domestic animals - birds, agricultural useful organisms, aquatic animals etc. Therefore, after purchasing them, transportation, storage and use in the fields should be done carefully.
Transportation - Do not transport pesticides from one place to another with food items, fodder or animal feed etc. Do not carry bags of granulated or powdered insecticides on the head, shoulders or back.
Storage - Storage - Do not store pesticides with human or animal feed. Store them out of reach of children, weak and unstable intellects. Most often, in case of pesticide chemicals remaining after use, store them in their original packing/bottle.
While preparing the solution - before using insecticides, carefully read the leaflet attached with the packing by the manufacturer and follow the safety rules suggested therein. Most insecticides are harmful to human health, so while making their solution, use gloves in your hands and a large stick or stick to mix the solution. Some types of insecticides have a gaseous effect, so while making their solution, put a cloth or mask on the mouth and nose. Use clean water for making pesticide solution and do not use dirty sludge and saline (highly salted) water.

At the time of use - Before spraying insecticides in the field, check the spraying equipment thoroughly. Make sure that there is no leakage of spray solution from the sprayer. If there is a possibility of this happening, then by taking the help of a good mechanic, get the equipment repaired.

Spraying in the field: should be done during cold weather and less air flow, for this morning or evening time is appropriate. Do not spray in strong sunlight and overly humid time. During spraying, wear clean, washed and loose clothes and use a mask or cloth on the mouth.

Do not consume food, drink or smoke etc. during spraying and at a time at least two persons should stay together and deal with the spraying work in turn so that any possible danger can be resolved judiciously.

If the nozzle of the sprayer has become blocked due to any reason, then in no case clean it by blowing through the mouth, but clean it with the help of a thin needle or alpin.

After the spraying work is over - the sprayer should complete his daily work after taking a bath using soap. After spraying, bury empty insecticide containers, vials, polythene bags or cartoons etc. in deep pits to get rid of their toxic residues.

First Aid for Toxic Effects of Pesticides

While using pesticides, knowingly or unknowingly and due to negligence, in case of toxic effect on the sprayer, immediately seek the services of a doctor and the following first aid to prevent further deterioration of the patient's condition before ge ng medical aid or assistance.

On swallowing the poison through the mouth -

i Make the patient vomit without delay. To get it, mix a spoonful of common salt in a glass of lukewarm water and drink it till it settles.

i If the stomach of the patient is already full of fluid, vomiting can be made by inserting other side of spoon in throat.

- If the patient is vomiting on his own, give only lukewarm water in place of lukewarm water mixed with salt
- If the patient is in a state of unconsciousness, then never try to make him vomit. Immediately call or take him to a skilled doctor.

When poison enters through the nostrils -

- Take the patient to fresh and open air.
- When the patient is in a closed room, open all the windows and doors of that room.
- Dress the patient in loose clothes. If he is wearing tight clothes, loosen them.
- If the patient's breathing rate is abnormal, give artificial respiration by pressing his chest slowly.
- Under no circumstances should the patient consume alcohol or any other intoxicant.

Penetration of poison through skin -

- Wash the part or parts of the foreskin affected by the insecticide with
- stream of clean water. Use good quality soap available on the spot.
- If there are insecticide-soaked or infected clothes on the body of the PP patient, then remove them immediately.

Infection of insecticide toxin in the eye -

- Keep the patient's eye open and wash it with clean and clean running water.
- Immediately refer the patient to a skilled ophthalmologist.
- Do not apply any kind of chemical in the eyes of the patient.

Identify pests and use Insecticides

American child worm

Black bug (louse)

Blister beetel

Aphid (aphid)

Thrips (Thrips)

Spotted ball worm

Termite

Identify pests and use Insecticides

Citricola scale

Fruit borer

Fruit Borer (Pod Borer)

Gall midge

Girdle beetle

Identify pests and use Insecticides

Grass hopper

Pink Bollworm

Gandi Bug

Green Bollworm

Hispa

Cut worm

Identify pests and use Insecticides

Leaf miner

Spider

Mealy Bug

Citrus butterfly

Leaf hopper

Painted Bug (Bagrada Bug)

Identify pests and use Insecticides

Leaf Folder

Leaf roller

Nematode

White Grub/root Grub

White Maggot

White fly

Identify pests and use Insecticides

Semi Looper

Army worm

Shoot borer

Jassid

Root Borer

Tobacco Worm

Stem borer (shoot or stem borer)

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Acto

(Acetamiprid 20% SP)

Acto is the broad spectrum, systemic and contact insecti de group. It is effective in the long-term control of harmful insects sucking sap from plants on many crops, fruits and vegetables. Due to being able to destroy the sucking insects from the crop when it comes in direct contact with Acto insects and af very effective on both adult and infant insects like Aphid, green leaf hopper, white fly etc. This insecticide is less toxic and less harmful to mammals and friendly insects due to its use in very small amounts.

Usage table -

Major crops	Pest controlled	Dose (per acre)	Method of use and Precautions
Rice	Brown plant hopper	20 to 40 grams	Keeping the spray nozzle towards the leaves and stem, make 100 to 150 liters of solution and spray it.
Cotton	Jassid and Aphid	20 grams	Spray the solution of 200 to 250 liters of water according to the stage of the crop. Do not harvest the crops till 15 days after the last spray.
	Whiteflies	40 grams	
Chilli	Thrips	20 to 40 grams	Spray the solution of 200 to 250 liters of water according to the stage of the crop.
Cabbage	Aphid	30 grams	
Okra	Aphid	30 grams	

Precautions -

- Keep away from food items, empty food utensils and animal feed.
- Avoid contact with mouth, skin and eyes.
- Avoid inhaling spray vapours.
- Spray in the direction of the wind.
- Wash contaminated clothing and body parts thoroughly after spraying.
- Do not smoke, eat, drink and chew anything while spraying.

Chloroveer

(Chloropyriphos 20% EC)

Chloroveer is a broad spectrum, contact and stomach action insecticide of the organophosphate group and also having fumigant property, making it an effective insecticide for the control of many insects of various crops. It is used in almost all types of situations, from seed treatment, soil treatment to the prevention of all types of pests that damage crops by munching or piercing.

Usage table -

Major crops	Pest controlled	Quantity (per acre)	Method of use
Rice	Hispa, Stem borer, Cabbage moth, Gall midge	500 ml	Spray it after dissolving in 200 to 400 liters of water.
	Leaf roller	750 ml	
Cotton	Aphid, Bollworm, White fly	500 ml	
	Cut Worm	1-5 liters	
Sugarcane	Black bug	300 ml	
	Early shoot & stalk	500&600	
	borer Pyrilla	ml 600 ml	
Groundnut	Aphid	400 ml	
	Root grub/ white	450 ml	
Mustard	grub Aphid	200 ml	
Brinjal	Shoot & fruit	400 ml	
Cabbage	borer Diamond	800 ml	
Onion	Back Moth White	2-0 liters	Spray it after dissolving in 600 to 800 liters of water.
Apple	Grub Aphid	1.5 to 2.0 liters	
Citrus Ber	Black citrus, Aphid	600 to 800 ml	
	Leaf hopper	0.9 to 1.2 liters	
Gram	Cut worm	1 liters	Spray it after dissolving in 200 to 400 liters of water.

For termite control :

1For seed treatment:-

1Wheat: - 3-4 ml per kg of seed

1Barley: - 4-6 ml per kg of seed

1(Mature) Gram: - 15-30 ml per kg of seed

1For land treatment:-

1Wheat:- 0.8-1.25 liters per acre

1Sugarcane:- 2.5 liters per acre

Precautions -

- Keep away from food items and animal feed.
- Avoid inhaling spray vapours.
- Spray in the direction of the wind.
- Avoid contact with mouth, skin and eyes.
- Do not smoke, eat, drink and chew anything while spraying.
- Wear full protective clothing when spraying or mixing.

Chloroveer Strong

(Chloropyriphos 50% EC)

Chloroveer Strong is a broad spectrum, contact and stomach action insecticide which belongs to an organophosphate chemical group. Chloroveer Strong controls a wide range of pests. It has a long-lasting effect on the leaves and controls most of the sucking, chewing insects especially in paddy and cotton crops. It is also used for under construction buildings and for termite control in existing buildings.

Usage table -

Major crops	Pest controlled	Dose (per acre)	Method of use
Cotton	Bollworm	400 - 480 ml	Dissolving in 200-400 liters of water a Sprinkle evenly.
Rice	Yellow stem borer and leaf folder	300 - 320 ml	
Before and after building	Termite	-	Make a solution in 0.50% water and spray before and after construction.

Precautions -

- Keep away from food items and animal feed.
- Spray in the direction of the wind.
- Avoid contact with mouth, skin and eyes.
- Do not smoke, eat, drink or chew anything while spraying.
- Wear full protective clothing when spraying or mixing.

Imidaveer

(Imidacloprid 17.8% SL)

Imidaveer is an intravenous insecticide of the neonicotinoid class. In various crops, vegetables and fruit trees, Aphid, hopper, Jassid, Scilla, Pyrilla etc. are effective insecticides in protection against sucking insects. The insecticidal chemical available in it remains active for a long time. It can be used at any crop stage, but the leaves should be green for better efficacy.

Usage table –

Major crops	Pest controlled	Dose (per acre)	Method of use
Cotton	Aphid, Whitefly, Jassids & Thrips	40 to 50 ml	Dissolve in 200 to 280 liters of water and use.
Paddy	Brown plant hopper, White backed plant hopper & Green leaf hopper		
Groundnut			
Chilli	Aphid, Thrips	50 to 100 ml	
Okra	White fly	40 ml	
Tomato	Aphid, Thrips White fly	60 to 70 ml	
Sunflower	Aphid, Thrips, White fly	40 ml	

Major crops	Pest controlled	Dose (per acre)	Method of use
Sugarcane	Termite	140 ml	Dissolve in 750 liters of water and use in drains.
Citrus fruit	Leaf miner & Psylla	20 ml	Use according to the size of the tree by dissolving it in water.
Grapes	Flea beetle	120 to 160 ml	Dissolve in 400 liters of water and use.
Mango	Hopper	2 to 4 ml Dissolve 10 liters of water per tree and use 45 days before fruit harvesting.	

Precautions –

Imidaveer can generally be mixed with all types of insecticides in recommended doses but do not use with alkaline fungicides such as Bordeaux mixture or lime.

Lambda strong

(Lambda Cyhalothrin 4.9% CS)

Lamda Strong is synthetic pyrethroid insecticide having contact and stomach mode of action. It is manufactured by new technology and protects crops from pests for a long time. Due to its effect, quick death of insects starts. To get the desired results of Lambda Strong, it should be applied uniformly on the crop with the onset of pest infestation so that the control of gnawing insects including maximum sucking insects can be done successfully.

No adverse effects have been observed in the crop when Lambda Strong is used in the recommended dosage. Relatively no significant reduction in the number of predatory midge bugs has been found with its use in paddy fields.

Usage table -

Major crops	Pest controlled	Quantity (per acre)	Method of use
Cotton	Bollworms	200 ml	According to the stage of the crop, dissolve it in 200 liters of clean water and sprinkle it evenly.
Paddy	Leaf folder and Stem	100 ml	
Soybean	borer Stem fly & Semilooper	120 ml	
Brinjal, okra, Tomato	Pod borer	120 ml	
Chilli	Thrips and Pod borer	200 ml	
Grapes	Thrips & Flea beetle	100 ml	Dissolve in 200 to 400 liters of water and sprinkle.

Precautions -

- Harvest vegetables after 5 to 7 days of its use while harvesting other crops after 15 to 31 days.
- Its use should be stopped 21 days before the harvesting of cotton.

Stembo

(Fipronil 0.3% G.R.)

Stembo is a broad spectrum and systemic insecticide and belongs to Phenyl Pyrazoles group. It has contact and stomach action. Due to the effect of eating plants treated with stembo, the insects get nausea, seizures and finally they die due to paralysis. The chemical of stembo is absorbed by the roots and reaches the whole plant through the xylem tissues of the stem, making them toxic for some time, which is effective in preventing insects from gnawing on the stem, leaves, flowers etc.

Usage table -

Major crops	Pest controlled	Quantity (per acre)	Method of use
Sugarcane	Early shoot borer, Root borer	10 to 13 kg	Mix 20-25 kg of soil near the root in rows and spread it evenly.
	Termite	10 kg	Mix 20-25 kg of soil and spread it evenly and give light irrigation.
Paddy	Stem borer, Brown plant hopper, Green leaf hopper, Rice leaf hopper	7 to 10 kg	After 15 to 25 days after transplanting, mix 20-25 kg of soil in the field and spread it evenly.
Wheat	Termite	8 kg	Mix 20 kg of soil and spread it evenly and give light irrigation.

Note - Wear gloves and other protective gear while scattering the stembo on the crop or drilling into the ground near the roots with a plough.

Precautions -

- It is necessary to have moisture at the time of using stembo in a sugarcane field.
- There should be 2 to 3 cm of water in the paddy field at the time of using stembo and keep the water standing for 2 to 3 days.
- Keep away from food items and animal feed.
- Avoid contact with mouth, skin and eyes.
- Avoid breathing in while using.
- Do not smoke, eat, drink or chew anything while spraying.
- Wear full protective clothing when spraying or mixing.
- Toxic to bees and aquatic organisms, so do not use it for aquatic organisms and during pollination.

Toro-10

(Bifenthrin 10% EC)

Toro-10 is a broad-spectrum insecticide of Synthetic Pyrethroid group. It has contact and stomach action and acts on the nervous system of insects. It controls white fly in cotton and leaf folder, green leaf hopper & stem borer in paddy, termite in sugarcane.

Due to its long duration of action, Toro-10 is a very effective and economical insecticide for the control of termites in crops. Toro-10 being a powerful insecticide recognized under Integrated Pest Management (IPM) is completely safe for the environment and for the person spraying.

Usage table -

Major crops	Pest controlled	Quantity (per acre)	Method of use
Paddy	Stem borer, Leaf folder & Green leaf hopper	200 ml	Spray after dissolving in 200 liters of water and do second spray after 15-20 days as per requirement.
Cotton	Bollworms & Whitefly	320 ml	Spraying of earthworms should be done by dissolving in 200 liters of water at the time of flowering and after 15-20 days as per requirement.
Sugarcane	Termite	400 ml	Use after sowing the crop after dissolving it in 200 liters of water.

Precautions-

- For the control of termites, 400 ml of Toro-10. Dissolve the quantity in 2 liters of water and mix it in 20 to 25 kg of soil and dry it per acre.
- In the field with termite control, light irrigation must be given after use of Toro-10.
- Stop using this insecticide 15 days before the harvest.
- It is harmful to bees, so do not spray it when the bees are active, is toxic to aquatic organisms, so should not be used near water bodies, or aquaculture.

Veertop Power

(Cartap Hydrochloride 4% GR)

Veertop Power is a broad-spectrum systemic insecticide with stomach and contact action and belongs to Nereistoxin analogue group. Due to the inflow effect of Veertop, both types of insects sucking and munching on plants can be controlled for a long time by using it. Veertop Power is safe against friend insects, birds, and animals in the fields and no resistance to it has been observed in insects. Therefore, it is an accurate and safe insecticide for the control of pests which are resistant to other insecticides.

Major crops	Pest controlled	Quantity (per acre)	Method of use
Paddy	Stem borer, Leaf folder, Whorl maggot	7.5-10 kg	Mixing 20 to 25 kg of sand with 5 to 7 cm in the field. Soak it evenly in standing water and let the water stand in the field for the next three to four days.

Precautions -

- Wear gloves on hands and cover your face and other body parts with clothes while spreading Veertop Power in the field.
- Uniform coating should be done and gloves should be used at the time of coating.
- Keep away from food items, empty food utensils and animal feed.
- Avoid contact with mouth, skin and eyes.
- Avoid breathing in while using.
- Do not smoke, eat, drink or chew anything while spraying.
- Wear full protective clothing when spraying or mixing.

Fenveer DP

(Fenvelrate 0.4%)

Fenveer DP is highly effective broad spectrum synthetic pyrethroid insecticide which controls chewing, sucking and borer insects like aphids, jassids & bollworms. It has contact and stomach action against spotted bollworm and pink bollworm in Cotton.

Usage table -

Major crops	Pest controlled	Quantity (per acre) and method of use
Cotton	Spotted bollworm & Pink bollworm	Use 8 to 10 kg in the field according to the stage of the crop and the incidence of pests.

Precautions -

- For effective control of pests on the crop, duster should be done in the same morning or evening time only in calm weather.
- To increase the quantity of pesticide powder, do not mix ash or any other powdery substance in it.
- Using a suitable mask on the face, apply the puff moving towards the direction of the wind.

Imexo

(Thiamethoxam 25% wg)

Imexo is a broad spectrum systemic, contact and stomach action insecticide which belongs to Neonicotinide group. Imexo is absorbed quickly by plants and transported to all of its parts, including pollen, where it acts to prevent insect feeding. After the insect eats it, or through direct contact, it enters their stomachs, causing paralysis and death of insects.

Usage table -

Major crops	Pest controlled	Quantity (per acre)	Method of use
Cotton, paddy	Jassid, Aphid & Thrips	40 grams	Spray it after dissolving in 200 to 300 litres of water.
	Whitefly	80 grams	
	Yellow stem borer, Gall midge, Leaf folder, White backed plant hopper, Brown plant hopper, Green leaf hopper & Thrips	40 grams	
Mustard	Aphi	20 to 40 grams	Spray it after dissolving in 200 litres of water.
Wheat	d	20 grams	
Potato	Aphi	40 grams	
Okra	d Jassid, Aphid & Whitefly	40 grams	Spray it after dissolving in 200 to 300 litres of water.
Tomato, Brinjal	Aphi White fly, Aphid d	80 grams	
Citrus	Aphid, Psylla	40 grams	Spray it after dissolving in 400 litres of water.
Mango	Hoppers		
Cumin	Aphid	40 grams	Spray it after dissolving in 200 litres of water.
Paddy Nursery	Green leaf hopper, Thrips & Whorl Maggot	800 grams	

Precautions -

- For soil treatment in potato crop, dilute the soil by mixing 80 grams of Imexo in 200 litres of water.
- Harvesting should not be done for 7 days after the use of Imexo in vegetables. Whereas the crops should be harvested after 20 to 25 days.
- Imexo can be mixed with generally all types of insecticides in recommended doses but do not use with alkaline fungicides such as Bordeaux mixture or lime.
- First spray at first sighting of pests and thereafter at 15 days interval depending on presence of pests.

Onvix

(Chlorantraniliprole 0.4% GR)

Onvix is a systemic granular insecticide which belongs to the new class of chemistry Anthralinic Diamide group, which is very useful for complete prevention of stem borer insects in paddy, sugarcane. Its effect lasts for a long time, about 30 to 45 days, due to which the crop gets complete protection.

Usage table -

Major crops	Pest controlled	Quantity (per acre)	Usage method
Paddy	Yellow stem borer & Leaf folder	4 kg	Use evenly in the field by mixing it with 20 to 25 kg of sand.
Sugarcane	Early shoot borer (ESB) & Top borer	7.5 kg	

Precautions -

- At the time of using Onvix in paddy, the field should be filled with 4 to
- inches of water.
- Onvix users must wear gloves.
- Use in sugarcane at the time of sowing in the drain and at the time of germination, put it in the soil near the roots of the buds and then irrigate.
- Keep away from food items, empty food utensils and animal feed.
- Avoid contact with mouth, skin and eyes.
- Avoid breathing in while using.
- Do not smoke, eat, drink and chew anything while using.
- Wear full protective clothing when using.

Pivota

(Chlorantraniliprole 18.9% SC)

Pevota is a broad spectrum insecticide which is effective for controlling pests of all Lepidoptera species and other species. Pivota is an insecticide of the anthranilic diamide class, which protects crops from pests in all types of weather for a long period. It is low usage quantity, less toxic and less harmful to human life. Therefore, this insecticide can be easily used in integrated pest management.

Usage table

Major crops	Pest controlled	Quantity (per acre)	Method of use
Sugarcane	Early shoot borer, Top borer	150 ml	Dissolving in 200 to 400 litres of water and spray per acre.
	Termite	200-250 ml	
Paddy	Yellow stem borer, Leaf folder	60 ml	
Cotton	American bollworm, Spotted bollworm, Tobacco caterpillar		
Soybean	Green Semi looper, Stem fly, Girdle beetle		
Pigeon pea	Pod borer		
Gram	Pod borer	50 ml	
Cabbage	Diamond back moth	20 ml	
Brinjal	Shoot & Fruit borer	80 ml	
Chilli, Tomato	Fruit borer, Tobacco caterpillar	60 ml	
Bitter gourd	Leaf and Fruit borer	40-50 ml	
Okra	Fruit borer	50 ml	

Major crops	Pest controlled	Quantity (per acre)	Method of use
Black Gram	Pod borer	40 ml	Spray per acre by dissolving in 200 to 400 liters of water.
Maize	Spotted steam borer, Pink steam borer	80 ml	
Groundnut	Tobacco caterpillar	60 ml	

Precautions -

- Harvest vegetables after 4 to 7 days of their use while harvesting other crops after 20 to 40 days.
- Use Pivota in sugarcane within 45 days after germination by drenching method only.
- The material should not be smelled Wear protective clothing during use.
- Spray in the direction of the wind.
- Do not fill the spray tank more than 3/4 of its capacity.
- Do not blow through the mouth if particles get stuck in the nozzle, but clean with a thin wire or pin.
- In case of spillage on the body, clean it with plenty of water.

Veercombi-44

(Prophenophos 40% + Cypermethrin 4% EC)

Veercombi-44 is a unique broad-dimensional combination of prophanophos of the organophosphate class and cypermethrin of the synthetic pyrothroid class. After feeding on a treated plant or crawling over a treated leaf, the pest is first paralyzed and then quickly dies. It is used to control bollworm of cotton.

Usage table -

Major crops	Pest controlled	Quantity (per acre)	Method of use
Cotton	Bollworm Complex	400-600 ml	Spray it after dissolving in 200 to 400 liters of water.

Precaution -

- Stop using this insecticide fifteen days before the harvest or fruit harvesting.
- Keep food items, empty utensils of food items and away from animals.
- Avoid contact with mouth, skin and eyes.
- Avoid inhaling the spray vapor.
- Spray in the direction of the wind.
- Wash contaminated clothing and body parts thoroughly after spraying.
- Do not smoke, eat, drink and chew anything while spraying.
- Wear full protective clothing when spraying or mixing.

Veercombi-505

(Chloropyrifos 50% + Cypermethrin 5% EC)

Veercombi-505 is a unique multifunctional insecticide mixture of chloropyriphos of the organophosphate class and cypermethrin of the synthetic pyrothroid class. Veercombi-505 has the effect of pradyuman in addition to a touch and stomach poison for keto. Its use can be used to successfully control other pests, including those that pierce plant tissues, gnaw on leaves and fruits, and sucking insects.

Usage table -

Major crops	Pest controlled	Quantity (per acre)	Method of use
Cotton	Aphid, Thrips, Jassid, Whitefly, American bollworm, Pink bollworm, Spotted bollworm, Spotted litura	400 ml	Spray it after dissolving in 200 to 400 liters of water.
Paddy	Stem borer & Leaf folder	250 to 300 ml	

Precautions -

- Harvest the crop after 15 days of last spraying of Veercombi-505.
- Keep food items, empty utensils of food items and away from animals.
- Avoid contact with mouth, skin and eyes.
- Avoid inhaling the spray vapor.
- Spray in the direction of the wind.
- Do not smoke, eat, drink and chew anything while spraying.
- Wear full protective clothing when spraying or mixing.

Ema

(Emamectin benzoate 5% SG)

Ema (Emamectin benzoate 5% SG) belongs to avermactin group of insecticides. It is a water soluble granular insecticide with stomach action and rapidly absorbed into foliage, thus, it must be ingested by the larvae to be most effective. The larvae become paralyzed shortly after coming into contact with the ema and stop eating and die after 2-3 days. Ima's cotton brinjal for worm control in brinjal, cabbage, chilli, gram, pigeon pea, grapes.

Usage table -

Major crops	Pest controlled	Quantity (per acre)	Method of use
Cotton	Bollworms	75-90 gr	According to the stage of the crop dissolve in 200-250 liters of water, mix and sprinkle evenly.
Okra	Fruit and shoot borer	50-70 gr	
Cabbage	Diamond back moth	60-80 gr	
Chilli	Fruit borer, thrips, mites	80 gr	
Brinjal	Fruit & Shoot borer	80 gr	
Pigeon Pea	Pod borer	85-90 gr	
Gram	Pod borer	85-90 gr	
Grapes	Thrips	80 gr	

Precautions -

- Use wood to stir the spray solution.
- Protect skin, eyes and mouth from contact with insecticides, and prevent inhalation.
- Its use only by wearing protective clothing such as apron, gloves, niqab and gum boot etc.
- After daily use, thoroughly wash the insecticide-affected areas and change clothes. Wash contaminated clothing thoroughly.

Metroz

(Pymetrozine 50% WG)

Uttam Metroz is best known as chemical for effective control of paddy brown plant hopper, an infiltrating (systemic) and translaminar (redistributed under the leaf) insecticide. It also control insects that do not come in direct contact with this insecticide. It disrupts the insect's nervous system and hinders its ability to eat. Insects stop eating when exposed to chemicals and die within a few days. It controls the egg-laying insects and does not allow the next generation of insects to grow. Metros is safe for the environment, so it can also be used in integrated pest management.

Usage table -

Major crops	Pest controlled	Quantity (per acre)	Method of use
Paddy	Brown Plant Hopper	120 grams	Dissolve in 200 litres of water Mix and spray.

Precautions -

- Spray a maximum of two sprays. The first spraying should be done when the infestation of the insect starts and after reaching the stage of more damage level (ETL).
- Use wood to stir the spray solution.
- Avoid contact with mouth, skin and eyes.
- Avoid entry by breathing in while using.
- Do not smoke, eat, drink or chew anything while using it.
- Wear full protective clothing when using.

Reon

(Pyriproxyfen5% + Diafenthiuron25% SE)

- Reon effectively controls the sucking pests like whitefly, thrips, jassid and aphid in cotton crop.
- Reon has translaminar activity which allows the control of hidden pest or white fly egg, nymph, pupae and adult on the underside of the leaves.
- Within a few hours of spraying Reon, the nymph stops sucking the sap from the plants.
- Provides effective control even when it rains 30 minutes after the Reon spray.

Usage table -

Cotton	Whitefly, Thrips, Jassid and Aphid	400-500 ml	Do the first spray as soon as you see the infestation of insects. If more pest infestation is observed, do two more sprays at an interval of 8-10 days.

Working Method -

- It destroys the sucking insects.
- Kills the eggs.
- Does not allow nymphs to move from one stage to another.
- Does not allow it to become mature from pupa.
- Kills both the adult male and the female.

Suggestion -

For best results, spray properly so that the rayon reaches each leaf.

Precautions -

- Do not use on crops other than those listed on the label and leaflet.
- Avoid spraying near water bodies, as it is toxic to fish.
- Avoid contact with mouth, skin and eyes.
- Avoid entry by breathing in while using.
- Do not smoke, eat, drink or chew anything while using it.
- Wear full protective clothing when using.

Imexo Plus

(Thiamethoxam 30% FS)

Imexo Plus is a versatile intercurrent insecticide. When seed treatment with Imexo Plus, it controls sap-sucking pests in the early stages of the crop. Being an infested insecticide, it reaches different parts of the plant and the pests die immediately when they start feeding on the leaves. Insects of cotton crop like Thrips, Aphids and white fly, sorghum and maize shoot fly, wheat-termite, okra-thrips, paddy - thrips, green leaf hopper and maggot, sunflower-thrips, is capable of controlling soybean stem fly and chilli powder. Its quick effect on sucking insects prevents leaf folder pest.

Working method

Imexo Plus affects the central nervous system of insects and protects against targeted insects by interfering with the receptors that transmit the message to continue feeding.

Usage table -

Major crops	Quantity (per acre)	Method of use
Cotton	Aphid, Whitefly	10
Sorghum	Shoot fly Aphid	10
Okra	Shoot fly	5-7
Maize	Termite	8
Wheat	Thrips, green	3-3
Paddy	leaf hopper,	3
Sunflower	maggot Aphid,	10
Chilli	Thrips Thrips	7
Soybean	Shoot fly	10

Dinto

(Dinotefuran 20% SG)

Dinto is a contact and selective granular insecticide representing the third generation of the neonicotinoid group with dinotefuron as the active ingredient. Which is quickly absorbed by the plants and gives precise control of insects by affecting the insect nervous system.

Usage table -

Major crops	Pest controlled	Quantity (per acre)	Method of use
Paddy	Brown Plant Hopper	60-80g	Spray it after dissolving in 200 liters of water.
Cotton	Aphid, Thrips and White fly	50-60g	

Instructions for Use:

- Take the recommended quantity of Dinto and mix it with a wooden stick by adding some water.
- Afterwards, sprinkle the remaining water after making a solution.
- Do not spray against the wind.

Fentol

(Tolfenpyrad 15% E.C.)

Fentol has been developed to control a wide range of pests, such as hoppers, aphids, diamondback moths, tobacco caterpillar, bugs, worms, Thrips, borer, leaf borer, mites, miner and to control hoppers in vegetables and fruits. Has been developed to control some mildew diseases on other crops. In India, fentol is approved for use on diamondback moths and sucking insects such as aphids, Thrips, White fly, etc.

Usage table -

Major crops	Pest controlled	Quantity (per acre)	Method of use
cabbage	Diamond Back Moth, Thrips	400 ml	Dissolve in 200 litres of water and spray.
Okra	Aphid and White Fly	400 ml	

Tip: For best results, spray properly so that fentol reaches every plant and every leaf.

Pifro

(Fipronil 5% SC)

Pifro is a modern insecticide of Phenylpyrazole group which controls both types of insects chewing and sucking leaves in plants. It is a highly active substance that disrupts the nervous system of insects and paralyzes them, leading to their death. This chemical has a long-lasting effect on plants. This chemical is mainly used for the control of pests in paddy, sugarcane, chilli and cabbage crops. Pifro can also be used in the control of Aphids, hopper and thrips in cotton crop.

Usage table -

Major crops	Pest controlled	Quantity (per acre)	Method of use
Paddy	Stem borer, brown, green and white spotted hoppers, paddy weevils, leaf folder etc.	400 – 600 ml	Dissolve in 200 litres of water sprinkle evenly. First spray to be done at the beginning of the infection and after that 2-3 sprays should be done at an interval of one week.
Sugarcane	Stem borer, root borer and termite Aphid, thrips, white fly and Bollworm	400 – 600 ml	
Cotton			
Cabbage	Diamond Back Moth Thrips, Hopper, white fly, Fruit borer worm	320 – 400 ml	
Chilli			

Important - It is not only helpful in pest control but also helps in vegetative the growth of plants like -

- Develops roots.
- Increases the number of buds and earrings.
- Increases crop yield and quality.

Precautions -

- The use of Pifro in vegetables should be stopped 7 days before harvesting while in crops 20 to 30 days before harvesting.
- The use of pifro should be stopped 6 to 7 days before the harvesting of cotton.

Lepiveer

(Flubendiamide 20% W.G.)

Lepiveer is a new generation based on flubendiamide, a novel active ingredient of the insecticide class benzanddicarboxamide (diamide insecticide group). This chemical has been developed worldwide by acting on pests of Paddy, cotton, leguminous crops and vegetables such as diamond back moth, American bollworm, paddy stem borer and leaf wrap. It immediately stops the feeding activity of caterpillars, thereby controlling the damage immediately after treatment. It maintains control for a long time thereby reducing the number of sprays for the farmer.

Usage table -

Major crops	Pest control	Quantity (per acre)	Usage method
Paddy	Stem borer and leaf folder	50 gram	Make a solution in 200 litres of water and spray it in one-acre area
Cotton	American bollworm	100 gram	
Pigeon Pea	pod borer	100 gram	
Tomato	Fruit borer	40 gram	
Cabbage	Diamond Back Moth	15-25 gram	
Chilli Tea	Fruit borer	100-120 gram	
Soybean	Semi Looper	60 gram 100-	
Groundnut	Semi Looper and	120 gram 120	
Black Gram	Armyworm Armyworm	gram	
and gram	Armyworm and pod borer	120 gram	
Sugarcane	Stem borer	120 gram	

Precautions -

- Avoid inhalation and skin contact while making and spraying the solution. Do not mix with bare hands.
- Users should use full protective clothing, including rubber gloves, and rubber boots. The face should be covered with a dust mask and the head with a cap.
- Thoroughly wash the spraying equipment before spraying any other insecticide.

Uttam Jobu

(Lambda cyhalothrin 9.5 % + Thiamethoxam 12.6 % + ZC)

It is a broad spectrum insecticide. It acts as a inflowing, contact and stomach activity insecticide. It belongs to the neonicotinoid and pyrethroid group of insecticides. New innovative formulation with synergistic effect is a unique combination with dual action due to the combination of ZC (CS and SC formulations). This insecticide gets absorbed through the roots and leaves and kills the juice sucking insects and caterpillars in one go. Protects the crop from viral diseases by controlling insects which act as disease vectors and promotes greening of the crop by promoting initiation of more branches and flowers.

Usage Table -

Major crops	Weeds to be controlled	Amount (per acre)	Method of use
Cotton	Thrips, Aphids, Caterpillars	80 ml	Dissolve in 200-400 liters of water and spray evenly.
Maize	Aphid, Sawfly, Stem Borer	50 ml	
Groundnut	Green Thrips, Aphids, Caterpillars	60 ml	
Soybean	Stem borer fly, Green Semilooper caterpillar, Girdle beetle insect	50 ml	
Chilli	Thrips, Fruit borer pest	60 ml	
Tomato	Thrips, White fly, Fruit borer pest	50 ml	
Tea	Thrips, Green Semilooper Caterpillar, Tea Mosquito Bug	60 ml	

Uttam Nadora

(Flubendiamide 0.7 % GR)

Uttam Nadora product is powered by Japanese technology, Flubediamide, which is a new generation diamide class active ingredient. After 1 hour of use of Uttam Nadora, its active ingredient becomes 100% water soluble, and starts its effect immediately. Through unique capillary action, Uttam Nadora coats the surface of the paddy stem. Hence it forms a protective coating against the targeted pest and controls the pests effectively. In this way, Uttam Nadora keeps the paddy crop safe for 20 days. It is effective in controlling a wide range of pests of the Lepidoptera class. Its use also has a positive impact on uniform root development and thick tillers, which collectively leads to better yield gains.

Major crops: Paddy

Pests to be controlled: Rice stem borer insect.

Usage quantity: 4.9 to 5.7 kg/acre

Method of use: Within 15-25 days of transplantation, mix it with sand or fertilizer and sprinkle it in standing water at the rate of 5 kg per acre.

Note: Keep water level in field 2 to 3 inches during application of Uttam Nadora and till 3 days after application.

Uttam Lucida

(Novaluron 5.25 % Indoxacarb 4.5 % SC)

Uttam Lucida is an innovative product with dual action. It is a broad spectrum lepidopteran insecticide. One of its primary ways of working is by preventing sodium ions from entering nerve cells, thereby attacking the insect's nervous system. It exerts phytotoxic effects by acting as a chitin synthesis inhibitor, as this insecticide interferes with the molting of insects and paralyzes them.

Usage Table -

Major crops	Weeds to be controlled	Amount (per acre)	Method of use
Tomato	Fruit borer, Leaf gnawing caterpillar	330-350 ml	Dissolve in 200 liters of water and spray per acre.
Chickpea	Pod Borer	330-350 ml	
Soybean	Pod borer, Green semi looper caterpillar	330-350 ml	
Pigeon pea	Pod borer, Maruka caterpillar, Chickpea caterpillar	330-350 ml	
Chilli	Fruit borer, Chickpea caterpillar	330-350 ml	
Black gram	Thorny pod borer, Tobacco caterpillar	330-350 ml	
Peanut	Chickpea caterpillar, Tobacco cutworm	350 ml	
Paddy	Yellow stem borer, Leaf roller	175 ml	

Uttam Grace

(Pyraclostrobin 3.5% + Clothianidin 22.5%+ Thiram 15% F.S.)

Uttam Grace is the best fungicide and insecticide to protect seeds and crops by controlling seed surface borne pathogens, internal seed borne pathogens and soil borne pathogens.

Properties:-

- Uttam Grace Seed surface borne pathogens are translocated from internally seed borne pathogens and soil and effectively penetrate the seed coat and germinating seeds.
- Uttam Grace is an endocrine fungicide and insecticide which is easily transferred into the plant through translaminar action or absorbed through the roots and protects the entire plant from diseases.
- Uttam Grace is also helpful in increasing seed germination, early and uniform establishment of seedlings, plant growth, excellent plant vigor etc.
- Uttam Grace increases plant biomass by proper development of roots, stem, leaves etc.
- Uttam Grace increases the number of pods and the yield.

Usage Table:-

Major crops	controllable diseases	Pest controlled	Quantity (per acre)
Groundnut	Seed rot and Aspergillus / Penicillium	Rot Termite, white grub and aphids	Seed treatment 6-7 ml/kg seed

Uttam Stembo Ultra

(Fipronil 0.6% GR)

Fipronil 0.6% GR is highly toxic to insects, which is very effective to control pests in various crops. It works by disrupting the central nervous system of insects. Fipronil not only controls pests effectively but it also enhances plant growth such as more root development, productive tillers etc resulting in higher yield.

Usage Table –

Major Crop	Pests to be controlled	Quantity (per acre)	Method of Application
Paddy	Stem borer and leaf roller	4 Kg	After 15 to 20 days of transplantation, mix it with 20-25 kg of field soil and spread it evenly.
Sugarcane	Early branch borer, termite	5 Kg	Mix it with 20-25 kg of soil and spread it evenly near the roots in the rows.

Characteristics -

- It controls the pests effectively.
- It increases the growth of plants.
- It increases the growth of roots.
- It increases the number of productive tillers.
- It helps in the growth of plants.
- It is used to control stem borer and leaf roller pests in rice and sugarcane crops.
- It is effective in controlling termites, borers, hoppers, and sap sucking pests.

Uttam FM 40

(Fipronil 40% Imidacloprid 40% WG)

Uttam FM 40 is a modern powerful insecticide containing two effective ingredients - Fipronil and Imidacloprid. This combination eliminates the cutting and sucking pests and soil dwelling pests which attack various plant parts of the crops. It provides immediate and long lasting control of pests through its contact, nervous system inhibiting and stomach action mechanisms.

Usage Table –

Major Crop	Pests to be controlled	Quantity (per acre)	Method of Application
Paddy	Stem borer, leaf roller, brown hopper	40-50 grams	Dissolve in 200 liters of water and spray evenly.
Sugarcane	White Grub	175-200g 100-120g	Dissolve in 400-500 liters of water and spray evenly.
Groundnut	White Grub		Dissolve in 400 liters of water and spray evenly.
Cotton	Jassids, Aphid	50 grams	Dissolve in 200 liters of water and spray evenly.
chili	Fruit borer, thrips/aphid	30-40 grams	Dissolve in 200 liters of water and spray evenly.

Precautions -

- Uttam FM 40, due to its long term effectiveness ensures continued pest control for months from the time of spraying.
- Uttam FM 40 is effective against various soil borne insects and sucking pests, improves root growth & plant health and performs excellently in sandy, clayey soils and various climatic conditions.
- Depending on the crop and target pest, it may be used as a seed treatment, soil application or spray.

Precautions -

Ÿ It can be toxic to human health. Can irritate skin and eyes. It is necessary to wear gloves, mask and protective glasses when using.

Ÿ Just follow the dosage and method as directed.

Ÿ Avoid contact with bees and birds.

Uttam Ben Plus

(Benzpyrimoxan 10% + Pymetrozine 20% GR)

Uttam Ben Plus is a selective insecticide specifically formulated for the control of sucking pests in rice crops such as brown hopper, green hopper and white hopper. It contains two active ingredients with different mechanisms of action - benzpyrimoxan (an insect growth regulator) and pymetrozine (a feeding inhibitor) which arrest the development cycle of the pests and effectively kill them by disrupting their feeding behaviour. The product is also effective against pests that have become resistant to conventional insecticides, and it is considered suitable for use under Integrated Pest Management (IPM).

Usage Table –

Major Crop	Pests to be controlled	Quantity (per acre)	Method of Application
Paddy	Brown Hopper, White Backed Hopper and Green Leaf Hopper	200-280 grams	Dissolve in 200 liters of water and spray evenly.

Characteristics -

- It is specially designed to control brown hopper and white backed plant hopper in rice crops.
- Uttam Ben Plus helps in the development of healthy and strong tillers, which helps in preventing damage to heavy panicles during strong winds.
- Use of Uttam Ben Plus results in plants becoming greener, stronger and more tolerant to diseases, thus improving both crop health and production.

Precautions -

Ÿ Stay away from food, empty food containers and animal food.

Ÿ Avoid contact with mouth, eyes and skin.

Ÿ Avoid breathing in the spray mist. Spray in the direction of the wind.

Ÿ After spraying, immediately wash clothes and body parts thoroughly.

Ÿ Do not smoke, drink alcohol, eat or chew anything while spraying.

Ÿ Wear full protective clothing when mixing and spraying.

Uttam Clothrin

(Chlorantraniliprole 9.3% + Lambda cyhalothrin 4.6% ZC)

Uttam Clothrin, a broad-spectrum insecticide, is effective on a wide range of pests found in different crops like paddy, cotton, cabbage, urad, moong, chilli, groundnut, brinjal, walnut, soybean etc. It controls sucking pests like whitefly, aphids, thrips, leafhoppers etc. The contact action of Lambda Cyhalothrin causes quick death of pests, while the systemic action of Chlorantraniliprole has a long lasting effect on the insect larvae.

Usage Table –

Major Crop	Pests to be controlled	Quantity (per acre)	Method of Application
Paddy	Stem borer, leaf roller and green leaf grasshopper	80–100 ml.	Dissolve the insecticide in 200 liters of water and spray normally.
Cotton	American bollworm, Spodoptera, Thrips	100 ml.	
Cabbage	Green-backed insect	80 ml.	
Urad / Moong	Pod borer	80 ml.	
Okra	Stem and fruit borer, thrips, whitefly	80 ml.	
Groundnut	Leaf Eaters, Aphids / Thrips	80 ml.	
brinjal	Stem and fruit borer	80 ml.	
Pigeon pea	Pod borer	80 ml.	
Soybean	Green Semi Looper, Stem fly, Girdle Beetle	80 ml.	

Characteristics -

Ÿ It is a broad spectrum insecticide, which controls a wide variety of pests.

Ÿ It keeps the pests under control for a long time on the crop and protects your crop from damage.

Ÿ It is effective against all insect stages including eggs and larvae.

Ÿ It kills the insects instantly.

Precautions -

Ÿ It may be harmful to human health. May irritate skin and eyes. It is necessary to wear gloves, mask and protective glasses when using.

Ÿ Just follow the quantity and method specified.

Ÿ Avoid contact with humans and animals.

Uttam Veertap 500

(Cartap Hydrochloride 50% SP)

Uttam Veertap 500 affects the muscle function of insects, paralyzing them and causing them to die slowly. This drug affects insects through the gut and contact. Insects consume this drug while eating the plant and then slowly die. It is used to control defensive and sap-sucking pests.

Usage Table –

Major Crops	Pests / Diseases to be Controlled	Quantity (per acre)	Method of Application
Paddy	Stem borer, leaf roller	400 grams	Dissolve the recommended quantity in 200 - 400 litres of water and spray.

Characteristics

Ÿ Uttam Veertap 500 Insecticide effectively controls all stages of the pest - egg, larva and adult.
Ÿ It is also safe for paddy, sugarcane and other herbal crops.
Ÿ It is compatible with other insecticides and fungicides.
Ÿ It is used to control chewing and sap sucking pests by paralyzing them.

Precautions -

Ÿ Keep away from food, empty food containers and animal food.
Ÿ Avoid contact with mouth, eyes and skin.
Ÿ Avoid inhaling the chemical mist. Spray in the direction of the wind.
Ÿ After spraying, immediately wash clothes and body thoroughly.
Ÿ Do not smoke, drink alcohol, eat or chew anything while spraying.
Ÿ Wear full protective clothing when mixing and spraying.

Uttam Agros

(Thiamethoxam 1% + Chlorantraniliprole 0.5% GR)

Uttam Agros is an insecticide used to control stem borer, leaf roller and other pests in rice.

Usage Table –

Major Crops	Pests / Diseases to be Controlled	Quantity (per acre)	Method of Application
Paddy	Stem borer, leaf roller, brown grasshopper, green grasshopper	2.4 Kg	After 15 to 20 days of transplantation, mix it with 20-25 kg of soil of the field and spread it evenly.

Characteristics -

- Uttam Agros is a granular (GR) insecticide, which can be easily sprayed directly on the field.
- It provides effective control of pests like stem borer, leaf roller, white fly, thrips and leaf hopper.
- It promotes seed germination, strengthens plant roots and improves overall growth and production of the crop.
- Its systemic and translaminar action provides protection to the plant both inside and outside.

Uttam Hikaru

(Pyrifluquinazone 20% WG)

Uttam Hikaru is used to control sucking pests like thrips, whiteflies, aphids, mealybugs and scale in cotton. It is a systemic insecticide, which means it is absorbed by the plant tissues and provides a broad protection. It kills the pests by stopping their feeding, leading to their death.

Usage Table –

Major Crops	Pests / Diseases to be Controlled	Quantity (per acre)	Method of Application
Cotton	White fly	150–200 grams	Dissolve in 200 liters of water and spray evenly.

Other information –

- It is effective against a wide range of pests, including aphids, white fly, leaf hoppers, and scale.
- It provides long term protection after being absorbed into plants.
- It helps plants absorb nutrients, keeping them healthy and less susceptible to pests.
- It dissolves easily in water and spreads well over the plant, ensuring better coverage and effective control.

Fungicide

Fungicide Chemical

The discrepancy in their function or structure in plants and its adverse effect on the development of plants is called disease. The outbreak of the disease can occur in any or some parts of the plant or the whole plant. Every disease has certain symptoms and if there is a possibility of a significant decline in the yield or growth of the plant due to the disease, necessary measures must be taken for its prevention. A favourable for the growth of pathogens for the spread of disease on the crop, the inherent resistance or susceptibility of a particular variety to disease is a major contributor. Plant diseases are often caused by microscopic microbes like fungi, bacteria, viruses nematodes and mycoplasma etc. Pathogens get their nutrition from plant tissues. In this process, the infected part of the plant or the whole plant is destroyed by the disease or it is unable to perform its normal function because of various toxic chemicals and acids secreted by the pathogen. In addition to pathogenic diseases, similar to many types of anomalies are also seen as a result of deficiency of nutrients (potash, phosphorous and zinc etc.) and disruption of function.

Sources of diseases in crops: -

1 **Seed-borne diseases -** The outbreak of these diseases can occur at any time till the germination of the crop and after that, the seed or fruit is formed due to the presence of pathogens (fungus, bacteria or virus) inside or on their surface. Green ear disease of millet, Kandwa disease, bacterial leaf spot disease of cotton, cervical rot disease of groundnut etc. is the main examples. Viral diseases on various crops also spread through the infestation of infected seeds.

1 **Soil-borne diseases -** After sowing or transplanting the fungi present in soil destroy the crop by Rhizoctonia and Microphomina, Pithium, Fusarium, Verticulum infestation. Apart from the above-mentioned fungi, sclerotia of two lentils and deadly stem-rot disease of other crops also survive in the soil for years. Irrigation water, agricultural machinery etc. are also helpful in the spread of soil-borne diseases.

3 **Diseases transmitted by air, water and other sources -** The spread and outbreak of disease-causing fungi, bacteria and viuses in the aboveground parts of crops starts when conditions are favourable for them in the environment. The spread of viral diseases from one plant to another is transmitted by insects such as Aphid, hoppers and white fly etc.

Prevention of diseases: -

To prevent diseases, it is very important to select disease to disease-tolerant varieties. Seed treatment is a cheap and very effective method for the prevention of seed-borne diseases. It is always beneficial to use suitable fungicides or bio-antibiotic chemicals for the treatment of disease symptoms or conditions and conditions conducive to disease spread.

Types of pesticides: -

1 **Fungicides -** The use of chemicals such as Veersulp, Sulfino, Lexon, Azole, Veercon, etc., is effective as soon as the disease is suspected, or the initial symptoms of the disease appear. Fungicide containing elemental copper, sulphur and mercury destroy fungi and their spores, whereas systemic chemicals such as lexon, azole, veercon are absorbed and prevent diseases in spreading to the interior of plants.

1 **Antibiotics –** These chemicals are produced by microorganisms. Other pathogenic microorganisms are prevented by their use. The major bio-antibodies are streptomycin, tetracycline, oreofungin etc. Bioantibiotic chemicals are useful in the control of diseases caused by bacteria and can also be combined with fungicidal chemicals. Streptomycin is also used for seed treatment in crops like cotton, paddy etc. to destroy the bacteria contained in the seeds.

Precautions in the use of fungicides

Many fungi produce numerous spores that can infect crops by reaching relatively long distances through the air. In addition, persistent use of the same fungicide has shown evidence of resistance to the chemical in disease-causing fungi. Therefore, there is a need for judicious and careful use of fungicides for the effective diagnosis of fungal diseases in crops.

- Generally, choose disease-resistant varieties of crops and use fungicide chemicals only when required.
- Use only the recommended dosage for the diagnosis and diagnosis of the disease. Continuing use of higher than recommended doses can result in the fungus becoming resistant to the specific chemical.
- Mostly the use of chemicals is required more than once for protection against diseases. In such a situation, use chemicals of different procedures for spraying after the first spray.
- Considering the spread and height of the crop for using chemicals, at the rate of 150 to 200 litres per acre, using "Solid Cone Nozzle".
- Use suitable seed treatment equipment to treat the seeds with fungicides. Use protective equipment during seed treatment and application of fungicide in the field.

Detect diseases and use appropriate fungicide/bactericide

Early and late blight disease

Alternaria blight

Anthracnose

Smut disease of millet

Down Mildew disease of millet

Seed rot

Detect diseases and use appropriate fungicide/bactericide

gram blight disease

Powdery mildew disease

False Smut disease of paddy

Fruit rot

False smut

Collar rot disease

Detect diseases and use appropriate fungicide/bactericide

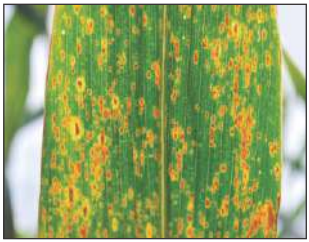
Gray mould

Root rot

Smut

Karnal Bunt

Brown stripe disease of maize



Maize leaf spot disease

Detect diseases and use appropriate fungicide/bactericide

Leaf spot disease

Purple blotch

Powdery mildew

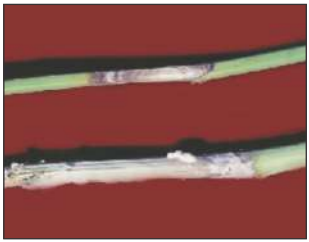
White rust

Scab in Potato

Neck Blast

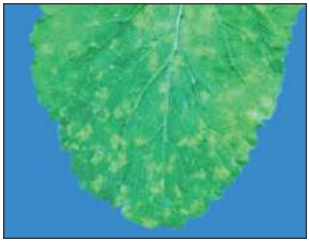
Detect diseases and use appropriate fungicide/bactericide

Sheath blight



Stem rot

Tikka disease in peanuts



Alternaria Blight

Wilt disease

yellow mosaic disease

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Sulfino

(Sulphur 80% WDG)

Sulfino is a fine powder of metallic sulphur. In this, a weighting agent has been added to neutralize the surface tension of water so that it can be used by mixing it with water. Sulfino is a broad-spectrum contact fungicide and acaricide. With the use of it Crops get required nutrient and along with it also provide resistance against frost and cold. As a protection chemical, it is used in various crops and fruit trees for the prevention of diseases like powdery mildew, scab etc.

Usage table -

Major crops	Controllable diseases	Quantity (per acre)	Method of use
peas, cumin, mango, grapes Guar	Powdery mildew, scab disease, and spiders	750 to 1000 gram	in 300 to 400 liters of water Mix and spray.
Wheat	Powdery mildew disease	1 kilo gram	in 200 liters of water Mix and spray.
Apple	Scab disease	750 to 1000 gram	in 300 to 400 liters of water Mix and spray.

Precautions -

- Do not use Bordeaux mixture or other alkaline solutions with sulfinos.
- While spraying Sulfino on crops, use a mask in the mouth and suitable goggles for the eyes to protect the nose and eyes.
- Do not spray in the temperature above 280 C or in strong sunlight.

Manzim

(Mancozeb 63% + Carbendazim 12% WP)

Manzim is an effective combination of two fungicides. It's used in prevention of various diseases of crops. The mancozeb present in it is a broad-spectrum systemic and contact fungicide. Manzim provides 7-10 days protection to the crops, plus it makes the treated plants greener and healthier.

Usage table

Major crops	Controllable diseases	Quantity (per acre)	Method of use
Paddy	Blast	300 gram	On showing signs of disease, spray it after dissolving in 250 to 300 liters of water.
Groundnut	Tikka, Leaf spot, Blast	200 gram	
Potato	Early blight, Late blight, Black scruf	300 - 400gram	
Chilli	Leaf Spot, Fruit rot, and Powdery mildew	300 gram	
Grapes and Mango	Downey mildew, Powdery mildew, Anthracnose	150 gram	On showing signs of disease, spray it by dissolving it in 100-150 liters of water or according to cropping stage and spraying equipment.
Apple	Fruit scab & Powdery mildew	250 gram	Dissolve in 100 liters of water and spray.
Maize	Downy mildew and Leaf blight	400 gram	Spray it after dissolving in 200 liters of water. Mix and spray.

Precautions -

- Manzim is toxic to fish and aquatic organisms and is not permitted to be used near fisheries.
- Do not smoke, eat, drink and chew anything while spraying.
- Wear full protective clothing when spraying or mixing.

Fulcot

(Thifluzamide 24% SC)

Fulcot is systemic fungicide with protective and curative action and belongs to the Carboxynilide/Carboxamide group. It is rapidly absorbed by the roots and leaves of the plant and spreads through the xylem and apoplast throughout the plant. Fulcot is effectively used for prevention of foliage blight of paddy, the early blight of tomato and black scurf in potato.

Usage Table:-

Major crops	Pest controlled	Quantity (per acre)	Usage method
Paddy	Sheath blight	150 ml	Dissolve it in 200 litres of water and sprinkle it evenly.
Tomato	Early blight	200 ml	
Potato	Black scurf	200 ml	Treat seeds.

Precautions -

- This product is highly toxic to aquatic organisms, so should not be used in and around aquaculture.
- Spray with a knapsack sprayer.
- Store food, animal feed and out of reach of children.
- Wear protective clothing while spraying.
- Do not eat, drink, smoke or chew tobacco during spraying.
- Do not smell it and avoid contact with eyes and skin.

Important -

- Take the required amount of fungicide and mix it well in a small amount of water. Now add the remaining amount of water as mentioned, while stirring well and sprinkle it evenly.

Azole

(Azoxystrobin 18.2 % + Difenoconazole 11.4% SC)

Uttam azole is a new generation combination containing Azoxystrobin 18.2% and Diphenoconazole 11.4% SC. It protects the crop before the attack by pathogens by inhibiting spore germination at an early stage of fungal development. Azole is an intravenous fungicide, which is absorbed by leaves, roots and seeds. It inhibits the growth of fungi by inhibiting the biosynthesis of sterols in the cell membrane. Azole not only controls disease but also improves crop health, quality and yield.

Usage Table:-

Major crops	Pest controlled	Quantity (per acre)	Usage method
Paddy	Sheath Blight and Blast	200 ml	Spray after dissolving in 200 litres of water when symptoms of the disease appear.
Cotton	Leaf spot disease and grey mildew	200 ml	
Maize	Blight & Downey mildew	200 ml	
Sugarcane	Red rot, Smut & Rust	160 ml	
Wheat	Yellow rust and powdery mildew disease	200 ml	
Onion	Purple blotch, Stemphylium Blight & Downey mildew	200 ml	
Tomato	Early & Late blight	200 ml	

Usage Table:-

Major crops	Pest controlled	Quantity (per acre)	Usage method
Chilli	Anthracnose and powdery mildew	200 ml	Spray it after dissolving in 200 litres of water.
Turmeric	Leaf blotch, Leaf spot & Rhizome rot	200 ml	

Features and Benefits -

- It is very effective due to the synergy and multifunctional action of two advanced chemicals.
- Provides more effective and prolonged disease control due to dual mechanism.
- It is an excellent tool for resistance management.
- Due to the Translaminar (redistributed under the leaves) and acropetal (moving from the bottom up) mode of action, it helps in the rapid spread of the plant system.
- It is also useful for more photosynthesis and healthy crop.

Precautions -

- Its use is prohibited in those places where fish farming is done along with fish farming or paddy cultivation.
- Do not spray this fungicide mixture repeatedly on approved crops to prevent the development of resistance.
- Do not spray during rain and strong wind.
- Spray only when there is sufficient moisture in the soil.
- Do not re-enter the field before the spray drops have dried on the crops.
- Use wood to stir the spray solution.
- Spray with a knapsack sprayer.
- Store food, animal feed and out of reach of children.
- Wear protective clothing while spraying.
- Do not eat, drink, smoke or chew tobacco during spraying.

Lexon

(Azoxystrobin 11%+ Tebuconazole 18.3% SC)

Uttam Lexon is a world-class fungicide containing Azoxystrobin 11% and Tebuconazole 18.3% SC. Is. It inhibits respiration and ergosterol synthesis in fungi. It is a combination of fungicide from Triazole and Strobilurin group of chemistry. It exhibits systemic and redistributed under leaves (translaminar) and spreads rapidly over the plant system.

Usage Table:-

Major crops	Controllable diseases	Quantity (per acre)	Method of use
Paddy	Sheath blight	300 ml	Dissolve in 320 litres of water and spray.
Onion	Purple blotch	300 ml	
Wheat	Yellow rust	300 ml	Spray it after dissolving in 200 litres of water.
Potato	Early & Late blights	300 ml	
Tomato	Early blight	300 ml	
Chilli	Fruit rot, Powdery mildew & Die-back	240 ml	Spray it after dissolving in 200-300 liters of water.
Apple	Scab, Powdery mildew & Premature leaf fall	400 ml	

Features and Benefits -

- Widespread control of diseases is the only solution for many diseases.
- Multifunctional function i.e. it can be used as protective, curative and eradicating.
- Inhibits the growth of new fungi due to its endoplasmic and translaminar activities.
- It is quickly absorbed by the plants and rapidly enters the plant system and starts working.
- It maintains control for longer duration thereby reducing the number of sprays for the farmer.
- Its dual action is perfect for resistance management.

Precautions -

- Toxic to fish and aquatic animals, so use is prohibited near fisheries and water life.
- After the first spray, do the second spray on the crops after 15 days according to the condition of the disease.
- Use wood to stir the spray solution.
- Wear protective clothing while spraying.
- Do not eat, drink, smoke or chew tobacco during spraying.

Isoprothveer

(Isoprothiolane 40% EC)

Isoprothveer is an ingested fungicide, which effectively controls plant diseases and is a short-lived fungicide. Isoprothveer is absorbed in plants by the roots and leaves and flows up and down (acropetal and basipetal).

Mode of Action:

- Isoprothveer stop growth of the infection fungi and prevents penetration into plants.
- After spraying the Uttam isoprothveer, it remains on the leaves of the plant even when it rains.
- It is an excellent tool for resistance management.
- Translaminar (redistributed under the leaves) and acropetal (moving from the bottom up)
- Due to the mode of action, it helps in rapid spread of the plant system.
- It is also useful for more photosynthesis and healthy crop.

Crop and Control Diseases:

Uttam isoprothveer only prevents blast of paddy.

Usage Quantity:

Dissolve 300 ml of Uttam Isoprothveer fungicide in 200-400 liters of water and spray it on one acre area.

Veer M-45

(Mancozeb 75% WP)

Veer M-45 is a fungicide of the dithiocarbamate class with a multi-pronged effect. This fungicide, upon exposure to air, converts to isothiocyanate by inhibiting the activity of enzymes of the sulfhydryl class of fungi. Due to which the growth of pathogenic fungi stops. Veer M-45 is used for control of fungal diseases in crops prone to outbreaks and post-infestation.

This fungicide is also used to destroy the fungus present on the surface of the seed-by-seed treatment. In the natural environment, Veer M-45 decomposes after some time into a substance harmless to humans, pets and birds.

Usage Table :-

Major crops	Controllable diseases	Quantity (per acre)	Method of use
Wheat	rust, smut, scorch disease	600 -800 gram	After dissolving in 300 liters of water Spray. Repeat spraying at intervals of 7 to 12 days as needed.
Mustard	White Rust, Alternaria tenius, Stem rot disease		
Gram	Blight, gray mold		
Peas and flaxseeds			
Onion and garlic	Leaf blight disease, mildew, purple blotch		
Potato	Early and late blight disease		
Tomato	Early Blight and leaf blight disease		

Uttam Ezio

(Tebuconazole 10 % Sulphur 65 % WG)

The Uttam Ezio Fungicide is a powerful solution to protect your crops from destructive fungal diseases. It is a versatile fungicide formulated with Tebuconazole 10% and Sulfur 65% WG designed to control a wide range of fungal diseases.

The effectiveness of Uttam Ezio lies in its two active ingredients:

Tebuconazole: This compound inhibits the growth and spread of fungal pathogens by disrupting their cell membrane.
Sulfur: Sulfur acts as a contact fungicide, inhibiting the germination and growth of fungal spores.

Uttam Ezio controls pathogens through both inflowing and contact routes, ensuring effective disease management. Uttam Ezio provides rapid disease control, saving crops from immediate damage.
Residual action provides long-term protection, reducing the need for frequent reapplication.

Usage Table -

Major crops	Weeds to be controlled	Amount (per acre)	Method of use
Chilli,	Powdery mildew, Fruit rot	500 gm	Dissolve in 200 liters of water and spray evenly.
Soybean	Leaf spot Pod blight	500 gm	

Uttam Theo

(Thiophanate methyl 70 % WP)

Uttam Theo is a broad spectrum systemic fungicide belonging to the benzimidazole group. Uttam Theo have preventive and curative action. It is quickly absorbed by plants and transferred into the system. It prevents the entry of fungi into plants and formation of wounds and shows very good curative effect on fungal diseases. Uttam Theo acts on the fungal reproductive system, thereby affecting the cell division and growth of fungi. It contains sulphur in atomic form which shows good phytotonic and anti-fungal effects on the plant.

Uttam Theo dissolves quickly and evenly in water and gives long lasting control of 12 to 15 days to the crops. Uttam Theo seed treatment, Uttam Theo has a wide window of use as seed treatment, rhizome dip soil soaking and spray. Which is safe for the environment and users.

Usage Table -

Major crops	Weeds to be controlled	Amount (per acre)	Method of use
Tomato	Fruit Rot, Ring Rot	286 gm	Dissolve it in 300-400 liters of water and spray evenly.
Pumpkin class	Anthracnose, Leaf spot disease	572 gm	
Apple	Scab	286 gm	
Papaya	Powdery Mildew	286 gm	
Grape	Anthracnose Powdery Mildew leaf spot disease, Rust	286 gm	

Uttam Manconil

(Mancozeb 64 % Cymoxanil 8 % WP)

Uttam Manconil, containing Mancozeb 64 % Cymoxanil 8 % WP, is a highly effective protective and curative new technology fungicide. It is one of the leading products for treatment of downy mildew in grapevines and blight in potatoes. It has excellent inflowing and contact action hence provides dual effect: forms a protective shield on the crop against diseases and is easily absorbed in the plant system, therefore able to control the disease effectively. The disease can be effectively controlled by using Uttam Manconil when the crop is most susceptible to the disease.

Usage Table -

Major crops	Weeds to be controlled	Amount (per acre)	Method of use
Grape	Downy Mildew	600 - 800 gm	Dissolve in 200-400 liters of water and spray evenly.
Potato	Late blight	600 gm	
Tomato	Late blight	600 gm	
Cucumber	Late blight	600 gm	
Citrus	Gammosis, Stem rot	250 gm per100 liters of water	

Uttam Grace

(Pyraclostrobin 3.5% + Clothianidin 22.5%+ Thiram 15% F.S.)

Uttam Grace is the best fungicide and insecticide to protect seeds and crops by controlling seed surface borne pathogens, internal seed borne pathogens and soil borne pathogens.

Properties:-

- Uttam Grace Seed surface borne pathogens are translocated from internally seed borne pathogens and soil and effectively penetrate the seed coat and germinating seeds.
- Uttam Grace is an endocrine fungicide and insecticide which is easily transferred into the plant through translaminar action or absorbed through the roots and protects the entire plant from diseases.
- Uttam Grace is also helpful in increasing seed germination, early and uniform establishment of seedlings, plant growth, excellent plant vigor etc.
- Uttam Grace increases plant biomass by proper development of roots, stem, leaves etc.
- Uttam Grace increases the number of pods and the yield.

Usage Table:-

Major crops	controllable diseases	Pest controlled	Quantity (per acre)
Groundnut	Seed rot and Aspergillus / Penicillium	Rot Termite, white grub and aphids	Seed treatment 6-7 ml/kg seed

Uttam Febkol

(Propineb 70% WP)

Uttam Febkol is an effective contact fungicide with a broad spectrum of action against various fungal diseases. This fungicide is effective in preventing the crop from diseases and controlling the already existing infection. Also, it maintains its effect for a long time.
It is mainly used as a foliar spray and used in crops like rice, apple, chilli, grapes, potato, tomato, cucumber, cotton etc.
The zinc present in it prevents diseases in crops, increases greenness, which makes the plants look healthier, greener and their growth improves.

Usage Table –

Major Crops	Pests / Diseases to be Controlled	Quantity (per acre)	Method of Application
Apple	Scab Disease	300 grams	Dissolve in 100 liters of water and spray.
Pomegranate	Leaf and fruit spots	300 grams	
Potato	Early and late blight	300 grams	
chili	Die-back disease	500 grams	
Tomato	Buck eye rot / fruit rot disease	300 grams	
Grape	Downy Fungus	300 grams	
Paddy	Brown leaf spot and narrow leaf spot	600–800 grams	Dissolve in 200 liters of water and spray.
Cotton	Alternaria leaf spot	500–600 grams	

Characteristics -

Ÿ The Uttam Febkol fungicide has both contact and resistance functionality.
Ÿ The availability of zinc in it has a positive effect on the crop and improves the immunity of the plants, thereby improving the yield and quality.

Precautions -

Ÿ It may be harmful to human health. May irritate skin and eyes. It is necessary to wear gloves, mask and protective glasses while using it.

Ÿ Just follow the prescribed dosage and method.

Ÿ Avoid contact with humans and birds.

Uttam Braveo

(Picoxystrobin 6.78% + Tricyclazole 20.33% SC)

Uttam Braveo is a broad spectrum fungicide, effective against a wide range of fungal diseases. The combination of picoxystrobin and tricyclazole properties present in it provides long term protection against a wide range of diseases in crops, especially tea, coffee, leafy vegetables, chillies, tomatoes, grapes, beans etc.

Usage Table –

Major Crops	Pests / Diseases to be Controlled	Quantity (per acre)	Method of Application
Paddy	Leaf blast and neck blast	400 ml	Dissolve in 200 liters of water and spray evenly.
chili	Anthracnose, Powdery Mildew	400 ml	Dissolve in 200 liters of water and spray evenly.

Precautions while using –

- Wear gloves, mask and leather shoes when using this fungicide.
- Do not allow the fungicide to come in direct contact with the skin, eyes or mouth.
- Keep it away from children and pets.

Uttam Hiroi

(Phenoxanil 5% + Isoprothiolane 30% EC)

Uttam Heroi is a broad spectrum fungicide, specifically formulated to control a wide range of fungal diseases affecting rice crops.It combines two powerful active ingredients - phenoxanil and isoprothiolane, which together provide both prevention and treatment of diseases.

Usage Table –

Major Crops	Pests / Diseases to be Controlled	Quantity (per acre)	Method of Application
Paddy	Leaf blast and neck blast	400 ml	Dissolve in 200 liters of water and spray evenly.

Precautions while using –

- Wear gloves, mask and leather shoes when using this fungicide.
- Do not allow the fungicide to come in direct contact with the skin, eyes or mouth.
- Keep it away from children and pets.

Specific Products

Specific Products

Uttam Sulton & Uttam Sulfino Gold

Sulphur deficiency in the soil is increasing due to the use of sulphur-free fertilizers for a long time. The reduced use of cow dung has also led to a further decline in the sulphur level in the soil. The analysis of soil samples revealed that about 55 per cent of the soil samples were found to be sulphur deficient. Sulphur is an essential nutrient of the crop, lack of which adversely affects the growth and development of plants. Its deficiency affects both the yield and quality of the crop. Sulphur is helpful in the development of roots, due to which plants get nutrients in a balanced form. Sulphur obtained from sulton increases the number and activity of friendly bacteria present in the soil, which also increases the availability of other important nutrients.

Thus the sulphur found in sulton is an essential nutrient for the good growth of plants.

Uttam Zinc and Uttam Zinc EDTA

The nutrient "Zinc" is of particular importance in activating many enzymes that aid in plant growth. Agricultural scientists are working on N.P.K. to get bountiful and good yields. Along with fertilizers, the use of zinc sulphate is also continuously recommended. N.P.K. The use of zinc sulphate along with fertilizers provides a balanced diet to the plants, which increases the yield and increases agricultural income. With the use of Zinc Sulphate, 20-25 per cent increase in yield can be achieved, which can result in about 4 to 7 times more profit than the additional cost incurred on Zinc Sulphate.

Uttam Sampurna

By continuously growing the same crop on the land, there is a shortage of various nutrients in the soil, to meet this deficiency, we use different fertilizers, dung manure, green manure etc. Crops require 17 nutrients for normal growth and development. Out of these, 8 nutrients such as zinc, copper, iron, manganese, boron, molybdenum, nickel and chloride are required in small amounts hence we call them micronutrients. The deficiency of these microelements is increasing every year in different lands. While a deficiency of four subtle elements is being found in some lands, it has increased to six in other lands. To meet the deficiency of these micronutrients, Uttam Sampurna is a mixture of all the micronutrients.

Uttam Polybor

Boron is helpful in the development of the cell walls of plants, which increases their permeability and proper expansion of cells. Its use increases the growth of the pollen tube, which helps in the formation of seeds and fruits. The use of boron in crops like cotton, groundnut, soybean, maize etc., and various vegetables and fruits gives encouraging results in yield and quality.

Uttam Calrich

Calrich is a chemical fertilizer containing calcium nitrate. It provides 15.5% nitrogen (nitrate) and 18.5% calcium (water soluble). The use of Calrich has been found to be very effective in various crops and soils. The use of Calrich also improves the physical and chemical properties of the soil. It also improves the yield and quality of crops.

Uttam recharge

Uttam Recharge is 100% water soluble fertilizer. It is ideal fertilizer for foliar sprinkling and drip irrigation. In this, due to the availability of nutrients in a fully available state, it helps in quick nutrition to the crops. Its use increases the yield and quality of crops. It can also be used by mixing it with insecticide.

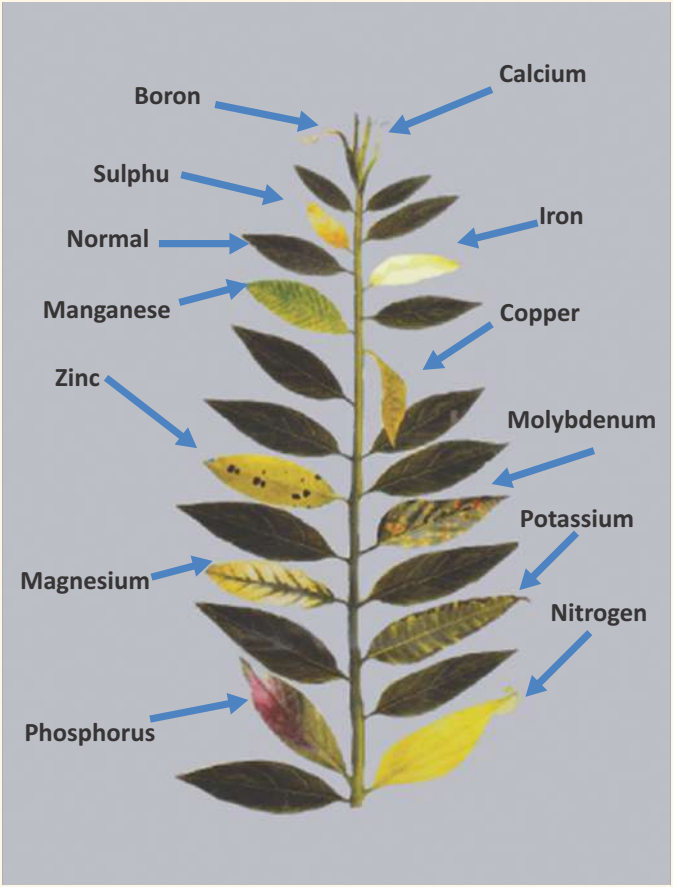
Uttam Superrhiza

Uttam Superrhiza is a biofertilizer product composed of a group of four types of beneficial bacteria. It is 100% granular fertilizer, which is very effective for uniform application in the field and gives good results. This product is a product developed by TERI, a reputed agricultural research organization of the country.

Uttam magnesium sulphate

Uttam Magnesium Sulphate is a secondary nutrient and is used to correct magnesium deficiency in soil. Excellent Magnesium Sulphate also improves the absorption of Nitrogen and Phosphorous by the crops. It is best for growth of crops that require magnesium-rich soil.

The symptoms of deficiency of nutrients



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Uttam Sulton

(Sulphur 90% Granular Fertilizer)

Sulton is presented by Chambal Fertilisers & Chemicals Ltd., i is an excellent product manufactured by world class technology in which 90% sulphur is present in granular form. In this form, sulphur is gradually available throughout the crop period as per the requirement. This characteristic of Sulton makes it more effective than other common fragrances available in the market.

Benefits of using Sulton

- It is an essential element for the normal growth of plants.
- It also activates the synthesis of chlorophyll, starch, sugar, fat, protein, glucoside and vitamins in plants.
- Helps in the development of the roots of plants.
- Increases the number of buds and earrings in cereal crops, oil content in oilseed crops, increases the size of tubers by producing starch in tuberous crops.
- The use of sulton also increases the resistance of crops to diseases, insects and weather.
- With an increase of 15-20% in the crop yield, the quality and storage capacity of the produce also increases.

Effects of Sulphur Deficiency on Crops

- Root growth is less. This causes yellowing of new leaves.
- Less flowering and late onset of pods in crops.
- Irregular filling of grains in pods and earrings.
- In crops, the grain size is small and the yield is also of low quality.
- The tubers of potatoes and onions are less in number and of uneven size.
- In oilseed crops, the cup-shaped leaves, the inner parts of the leaves and stems turn red.

Method of use of Sulton

- Before sowing, mix sulton with other fertilizers at the rate of 8-10 kg per acre and apply in the soil.
- Mix 500-600 per grams with soil and apply to lemon-class crops like Kinnow, Mausami, Malta, Lemon etc.

Uttam Zinc

(Zinc Sulphate Monohydrate - Zinc 33%)

Agricultural scientists are working on N.P.K. to get high and good yields. Along with fertilizers, the use of zinc sulphate is also continuously recommended. N.P.K. The use of zinc sulphate along with fertilizers provides a balanced diet to the plants, which increases the yield and increases the agricultural income. The use of zinc sulphate gives an increase in yield by 20-25 percent, which is about 4 to 7 times more than the additional cost of zinc sulphate.

Due to the deficiency of zinc in the soil:

- Intensive cultivation and sowing of high-yielding varieties.
- Continuous use of more phosphatic fertilizers and less use of indigenous manure.
- Irrigation of crops through canals.
- Alkaline, saline and lime-rich soil.
- Leakage of zinc in sandy land.

Why is zinc needed in crops?

- Activates many enzymes that help in plant growth.
- Helps in keeping plants green by photosynthesis.
- Useful in breeding and seed production.
- Helps in the consumption of other nutrients.

Symptoms of zinc deficiency in crops:

- In cereal crops, a colourless stripe is visible on both sides of the middle vein.
- If there is more deficiency, uneven spots like light yellow, white or brown colour start falling on the lower leaves.
- The growth of the crop becomes uneven and weak and the plants remain dwarf.
- It takes more time for crop to ripen.

Uttam zinc use method:

- By sprinkling the field at the time of the last ploughing.
- 20 to 25 days after sowing or transplanting by top dressing.
- By spraying in standing crops **Uttam zinc content per acre:**
- 6 to 8 kg in cereal crops
- 4 to 5 kg in oilseeds, pulses and vegetables
- Fruits from 70 to 100 grams per tree
- Crop spraying 0.3 per cent + 1.0 percent urea dissolved in water

Flos-Z

(Zinc Oxide Suspension Concentrate (Zinc - 39.5%))

Micronized Zinc Oxide Suspension Concentrate (Zinc - 39.5%) is a new generation economical suspension solution that acts as a highly effective source of Zinc, delivering it directly to the roots of your crops.

Composition:- It contains 39.5% Zinc in micronized suspension form.

Purpose:-Formulated to meet Zinc deficiency in crops.

Advantages

- Suitable for foliar spray, fertilization, root dip and seed treatment.
- Recommended for a wide range of crops including fruits, vegetables, flowers, spices and medicinal plants.
- Ensures quick absorption, efficient nutrient delivery.

Features:-

- This is a highly concentrated effervescent zinc formula containing 39.5% Zinc.
- It is formulated for rapid absorption and long-term feeding power so fewer applications are needed.
- It is highly stable, hence has a long shelf life, Highly concentrated suspension with maximum Zinc, Can be easily diluted.
- Highest purity, compatible with nutrients, pesticides and fungicides Safe.

Advantages:-

- Increases the absorption of essential nutrients like nitrogen, phosphorus and potassium.
- Promotes chlorophyll synthesis and photosynthesis for better energy production.
- Strengthens plant immunity against diseases and pests.
- Promotes auxin formation for growth regulation and increasing stem length.
- Activates enzymes involved in protein synthesis.
- Improves soil health and crop productivity.

Usage quantity:-

Dissolve 1 to 1.5 ml of Flos-Z in one liter of water and spray it on the crops (specific dosage is given below)

1st spray - 15 to 20 days after sowing/planting

2nd spray - at the time of flowering/pruning Flos-Z can be used from seedling to mid season, which can be done through irrigation, foliar and drip irrigation.

Cereal

0.625 litres/ha after 30-35 days of sowing and repeat after 45-50 days of sowing. Water rate 500 litres/hactare

Cauliflower

Cauliflower 0.625 liters/hectare at 25-30 days crop stage. Water rate 500 liters per hectare

Citrus fruits

Before flowering 0.625 to 1.0 litre/ha and repeat after flowering. Water rate 500-750 litres/hactayer

Banana

0.625 litre after 45-50 days of planting and repeat after 90-95 days of planting. Rate of water 500-750 litres/hectare. Do not spray on developing fruits.

Apple

Apple First application should be done at the rate of 1 ml water at the stage of petal fall (foliar). Second application should be done after harvesting at the rate of 1 ml water (foliar). Maximum water rate should be 800 litres/acre

Spinach

Spinach 0.5 litres/hectare at 4 to 6 leaf stage. Water rate 500 litres/hactayer

Onion

30-40 days after planting onion 0.3 litres/hectare. Water rate 400-500 litres/hactayer

Cucumber

Cucumber (field grown) 0.3 litre/hectare at 25-30 days and repeat at 40-45 days after sowing. Water rate minimum 500 litres/hactayer

Groundnut

0.625 liters/hectare 30-40 days after sowing groundnut. Water rate 500 litres/hactayer

Oil Palm

Oil Palm 1 litre/hectare Use three times per year (once every 4 months) through drenching.Water rate minimum 200 litres/hectare. For nursery (upto 2 years) apply 1 litre/hectare every two months (apply on leaves). Water rate minimum 500 litres/hectare.

Garlic

0.3 litres/ha 40-45 days after planting garlic. Water rate minimum 500 litres/hactare.

Cotton

In cotton, 0.5 litre/hectare should be applied at 30-35 days and repeated at 45-50 days after sowing.Water rate 500 litre/hectare.

Coffee

In coffee, first spray 0.5-0.75 ml of water in the pre-flowering stage and second time in the berry formation stage.Rate of water is 1000 to 1250 liters per hectare.

Grapes

0.3 litre/hectare 20-25 days after pruning grapes and repeat 35-40 days after pruning Water rate 500 litre/hectare.

Strawberries

For strawberries (field grown) apply once on green bud @ 0.5 litre/ha followed by two applications on white bud and regrowth after harvest @ 0.25 litre/ha. Water rate 500 litre/hectare.

Tomato

Tomato 0.3 litres/hectare 30-35 days after transplanting and repeat after 55-60 days of transplanting. Water rate 400 to 500 litres/hectare.

Maize

0.625 liters/hectare 30-35 days after sowing maize. Water rate 500 liters/hectare

Rice

Rice 0.625 litres/ha at 30-35 days of transplanting and repeat at 45-50 days of transplanting. Water rate 400-500 litres/hectare.

Sugarcane

In sugarcane, 0.625 liters/hectare should be applied at 40-45 days and repeated at 70-75 days of crop stage. Minimum water rate - 500-750 liters/hectare.

Wheat

Use 0.625 liters/hectare 30-35 days after sowing wheat and second time after 45-50 days of sowing. Water rate is 400 to 500 liters/hectare

Chickpea and Sunflower

In Chickpea, 0.625 litres/hectare at 30-40 days crop stage.Rate of water 500 litres/hectare

Carrot

In carrot 0.625 litres/ha when crop is 15 cm tall. For moderate to severe deficiency repeat the application at 10 to 14 days interval. Water rate 500 litres/hectare.

Potato

Spray 0.625 liters/hectare 30-35 days after planting potatoes.Rate of water 400 to 500 liters/hectare

Coffee

In coffee, first spray 0.5-0.75 ml of water in the pre-flowering stage and second time in the berry formation stage.Rate of water is 1000 to 1250 liters per hectare.

Pepper

For pepper (field grown) use 1 litre/ha from 4 to 6 leaf stage onwards. Repeated applications may be necessary.

Note:-

The last application should be done at least one month before harvesting. Water rate is 200 to 500 liters/hectare.

Soybean

Use 1.0-1.5 ml dissolved in water 30-35 days after sowing soybean.Rate of water 400-500 liters per hectare

Uttam Sampurna

(Micronutrient Mixture Fertilizer)

When we grow a crop on any land, the crop absorbs nutrients from the ground. The amount of absorption of various nutrients depends on the particular crop. Continuously growing crops on the same land creates a deficiency in the soil of various nutrients, to meet this deficiency, we use various fertilizers, dung manure, green manure etc.

Crops require 17 nutrients for normal growth and development. Eight of these nutrients such as zinc, copper, iron, manganese, boron, molybdenum, nickel and chloride are required in small amounts and that is why we call them micronutrients. The amount of deficiency of these microelements in different soils is increasing day by day. While a deficiency of four subtle elements is being found in some lands, it has increased to six in other lands. Therefore, now it has become necessary to meet the deficiency of various micronutrients, we should use such a source from which the deficiency of all those micronutrients can be met.

Chambal Fertilizers and Chemicals Limited is offering 'Sampurna', an integrated micronutrient diet for crops of different states to meet the deficiency of various micronutrients in the soil.

Sampurna is a reliable product made on the requirement of various micro-elements of land and crop, by using which farmers will not need various sources of micro-elements i.e. now only one solution to meet the deficiency of micro-elements – Uttam Sampurna. Micronutrients have their own special importance in crop production, which we can fulfil only through their supply. With the use of Uttam Sampurna, the farmers will be able to provide balanced nutrients to the crops as well as get good quality yield.

Total amount of use

- 5-8 kg per acre

Time and method of full use

- At the time of sowing, mix with other fertilizers and apply in the ground.
- 200 gram per tree per year in fruits

Uttam Calrich

(Calcium Nitrate. Calcium 18.5% and Nitrogen 15.5%)

Calrich (Calcium Nitrate) is a chemical fertilizer containing 15.5% nitrogen (nitrate) and 18.5% calcium (water soluble). Calrich being completely soluble in water, its entire amount is easily absorbed by plants.
Due to which it can be used in the soil at the time of sowing and by foliar spraying.

Benefits of using Calrich in crops

- Its use improves the physical and chemical properties of the soil.
- Helps activate enzymes required by plants.
- Helps in the growth of plants, the development of roots, increase in a number of buds.
- Helps in the formation of plant green matter and protein.
- Diseases are less in crops and the effect of adverse weather is less.
- Improves crop yield and quality.
- Increases storage capacity of crop yield.

Symptoms of calcium deficiency in crops

- Symptoms of its deficiency are first seen in the growing part of the plant.
- Due to its deficiency, the size of the leaves remains small, they become twisted, they get wrinkled and their colour becomes dark green.
- The growth of the plant stops and the colour starts turning yellow.
- The growth of roots is hindered.
- In peanuts, the beans are left empty or the grain becomes small in them.
- There is a decrease in the yield of the crop.

Usage Method	Amount of use
Use with other fertilizers at the time of sowing.	10 kg per acre
Foliar spray in standing crop	1-2 kg per 200 litres of water per acre
Use in combination with other fertilizers in fruit trees.	200-400 g per fruit tree

Calrich Plus

(Boronated Calcium Nitrate)

Uttam Calrich Plus is a special agricultural fertilizer containing Calcium 18.5%, Nitrogen 15.5% and Boron 0.25%. It provides essential nutrients to plants.Due to which their growth, development and production improves.

Due to its good solubility, nitrogen is rapidly absorbed in plants, due to whichIt can be used at the time of sowing or transplanting of seedlings, during flowering or fruit formation and as a foliar spray. Especially beneficial for fruit, vegetable, oilseed and pulse crops.not only nitrogen but also boron and calcium deficiency is quickly fulfilled.

Symptoms of Calcium Deficiency in Plants:-

- New leaves are small, deformed and curled. Leaf margins dry up and start falling off.
- Flowers drop early, reducing the number of fruits.
- In vegetables and fruits, black spots or rot (blossom end rot) appear on the lower part of the fruit. The inside of the fruit becomes soft and rotten.
- In mango, fruit borer, cavity spot and spongy tissue disorder are caused due to calcium deficiency.
- In groundnut, pod remains empty or grain is small.

  The stem of the crops becomes weak and thin and the growth of the roots stops. New buds do not develop properly or dry up. Due to these symptoms the plants become weak and their yield gets affected.

Boron Deficiency Symptoms in Plants:-

- The formation of buds in the plants decreases and the shoots start drying. And the plant becomes bushy or dwarf.
- Young leaves become thickened and distorted, with yellowing of the tips, especially of the lower leaves. Flowering and fruit production are reduced.
- 'Brown heart' in root crops, 'water core' in apples and brown spots inside beetroot and carrots are caused by boron deficiency.
- Due to the deficiency of boron, plants are not able to get other essential nutrients like calcium properly, which has a bad effect on the health and growth of the plants.
- Due to deficiency of calcium and boron, fruits start cracking and are not marketable.New buds do not develop properly or dry up. Due to these symptoms the plants become weak and their yield gets affected.

Benefits of using Uttam Calrich Plus in crops:-

- The cell walls of the plants are strengthened, which makes the plant grow healthy and vigorous.
- Boron in Calrich Plus helps in the process of pollination and fruit setting, thereby increasing the number of flowers and fruits.
- The presence of calcium and boron reduces flower drop and increases fruit set, thereby improving yield and quality. And crop storage capacity increases.
- Its use increases the greenness in plants and increases protein production.
- The ability to fight diseases increases and the effects of adverse weather conditions are reduced.
- It improves the quality, size, and colour of fruits and vegetables, making them more attractive and delicious.
- Uttam Calrich Plus activates several important enzymes in plants.
- It also improves soil health by improving water and air circulation in the soil.

Method of use and dosage:-

- **In normal crops:** Use 25 kg per acre at the time of sowing or 25 to 30 days after sowing.
- **In fruit trees:** Use 3 times, first 300-500 grams per plant before flowering, second 300-500 grams per plant during fruit formation and third 300-500 grams per plant
- **In vegetables:** Use twice, first use 10-12.5 kg per acre at 25-30 days after planting and second use 10-12.5 kg per acre at the time of fruit or flower formation.
- **Spray on leaves:** Dissolve 5-8 grams in one litre of water and spray.
- **Drip irrigation**: Use at the rate of 4-8 kg per acre.

things to note:-

- Read the instructions on the fertilizer packet carefully before use.
- Determine the quantity as per the requirement of the soil and crop.
- Spray in the morning or evening, when the temperature is low.

Uttam Recharge

(100% soluble in water)

- Completely water soluble residue free and an ideal fertilizer for foliar spray and drip irrigation.
- Nutrients remain in fully available form.
- Less harmful substances like chloride, sodium etc.
- Whether or not it is especially beneficial for potatoes, brinjal, tobacco, tea, grapes and other fruits and vegetables.
- Can be sprayed by mixing it with insecticide.
- Provides resistance in plants from bad weather. Keeps fruits, flowers and vegetables safe for a long time.
- Increases the yield and quality of crops.

Crop	Spraying stage	Uttam recharge grade	Use Quantity - g/L. Water
Cereal crops	While leaving	19:19:19 or 12:61:0	10
	A week before flowering	0:52:34	10
	After flowering	13:0:45	10
Oilseed crops	30 days after sowing	19:19:19 or 12:61:0	10
	A week before flowering	0:52:34	10
	One week after flowering	13:0:45	10
Vegetable crops	Sowing/planting 20 days later	19:19:19 or 12:61:0	10
	One week after flowering	0:52:34	10
	At the time of fruit	13:0:45	10
fruit crops	A week before flowering	19:19:19 or 12:61:0	10
	One week after flowering	0:52:34	10
	At the time of fruit	13:0:45	10
Nursery/ Green House	Once a week	19:19:19	5

Uttam Sulfino Gold

(Sulphur 90% Powder Micro Granules)

- For the normal growth and development of crops, 17 nutrients are required.
- Of these, nitrogen, phosphorous and potassium are the traditional elements which are known as the main nutrients.
- Generally, fertilizers are used more to supply the above three nutrients.
- Recently, sulphur has been emphasized as the fourth major nutrient because plants also require large amounts of sulphur, one unit of sulphur for every 6 units of nitrogen.
- Sulphur is required in many crops as much as phosphorus.
- In short, sulphur is one such element without which healthy soil, healthy crop and quality full bountiful yield cannot be imagined.

The main benefits of sulphur:-

Sulphur helps in increasing the percentage of protein in crops, as well as contributes to the formation of chlorophyll in plants, due to which the leaves remain green and food is made for the plants. The use of sulphur in oilseed crops increases the oil content. Increases pungency in onion and garlic helps in starch formation in tuberous crops. The use of sulphur in pulse crops helps in making more knots in the roots of the plants of these crops, due to which a bacterium called Rhizobium present in the roots of the plants helps in making the crops available by taking more and more nitrogen from the atmosphere. Improves alkaline and saline-alkaline soils enhances the absorption of other nutrients and increase crop quality and yield.

Usage Quantity:-

- It can be used from the time of sowing to 25-30 days of transplanting at rate of 3 kg /acre.
- It can be used in combination with other water-soluble fertilizers except for calcium based fertilizers.

Features-

- Water soluble and micro granule size (approximately 2-7 microcron) of Sulfino Gold Due to this its spread is quick and there is uniform spread over the whole area.
- It is effective even in small amounts.
- It has high fertilizer utilization efficiency due to micro granule size.
- Its wastage is very less.
- It can be used not only by sprinkling on land and plants but it can also be used as drip or sprinkler irrigation, side dressing / drenching.

Time and method of use-

- In cereals and other crops mixed with moist soil/sand or other fertilizers spraying can be done in a standing crop.
- Can be sprayed with other fertilizers while soiling in tubers, bulbs, rooted and planted vegetables.
- Can be used with irrigation in fruit crops.
- Spraying can be done after each harvest in many harvested crops like chilli, tomato, okra, brinjal etc.
- It can also be used through drip irrigation due to its high dispersion capacity, which also increases fertilizer utilization efficiency.

Uttam Zinc EDTA

(Zinc. 12% Chelated, soluble in water)

Uttam Zinc EDTA Benefits:-

- It is beneficial in the growth and development of the plant.
- Zinc is a component of many plant enzymes and helps in the production of growth hormones.
- The water-soluble property of Zinc EDTA make ample availability of zinc to crops.
- Helps in timely flowering and fruiting.
- Aids in the absorption of other nutrients.
- The use of excellent zinc EDTA is very beneficial in paddy, sugarcane, potato, wheat, cotton, tea, coffee, oilseeds, pulse crops, fruits and vegetables etc.

Application Method:-

Uttam Zinc EDTA can be used as a foliar spray in crops.

Usage time:-

- 30-40 days after transplanting in paddy
- At the time of plant growth in other crops

Usage Quantity:-

- 200 grams - 250 grams Uttam Zinc EDTA to 200 liter. Dissolve in water and spray in an area of one acre.

Precautions:-

- Do not use phosphatic and calcium fertilizers in combination.
- Keep in cool and dry places.
- After use, take the usual precautions like washing your hands etc.
- Keep out of reach of children.
- Spraying should be done only in the morning or evening.
- Spray in the direction of the wind, do not do it against the wind.

Uttam Superrizza

Uttam Superrhiza is a biofertilizer product composed of a group of four types of beneficial bacteria. It is 100% granular fertilizer, which is very effective for uniform application in the field and gives good results. This product is a product developed by the country's reputed agricultural research organization TERI.

Procedure to use Uttam Superrhiza:

- Increases the growth and spread of the roots of the plant (crop).
- With its use, plants take nutrients more easily and in more quantity.
- Provides strength to plants against soil deficiencies such as nutrient deficiencies, metal toxicity, alkalinity, drought and overheating.
- Ensures proper uptake by the plant of many nutrients like Phosphorus, Zinc, Calcium, Magnesium, Iron, Copper and Molybdenum etc.
- Effective in the prevention of pathogenic factors of soil and roots.

Benefits of using Uttam Superrhiza:

- High intake of nutrients by plants.
- Increases photosynthesis of plants.
- Reduction of diseases and pests in plants.
- Reduces the consumption of fertilizers.
- Increases tolerance to high temperature, drought, humidity etc.

Usage Method and Quantity:

Quantity - 4 kg per acre

Method of use - can be scattered directly in the field or mixed with compost, dung manure or fertilizers can also be scattered in the field.

Usage time-

- At the time of sowing or planting seedlings.
- Can be used even after 10 days of sowing.
- Can also be used in vegetable crop at the stage of flowering and fruit formation.

Uttam Superrizza WS

Mycorrhizal Biofertilizers

Superrhiza WS is a biofertilizer containing natural endomycorrhizae. It stimulates growth of both the root system and the crop,This allows crops to more effectively capture water and nutrients from outside the available root zone, thereby improving nutrient absorption and improving the plants' drought tolerance.Mycorrhiza WS contains vascular arbuscular mycorrhiza, which plays an important role in absorption of mineral nutrients and protection of crops from drought or pathogen attack.The hyphae of AM fungi spread into the soil, where their increased surface area and efficient absorption enable them to obtain mineral nutrients,even if these are in short supply or relatively immobile. AM fungi play a particularly important role in the absorption of phosphorus, a less mobile element,And a large proportion of the phosphate absorbed by them reaches the plants.

Features and Benefits:-

- Improvement and enhancement of soil health.
- Improves nutrient availability.
- Helps in the growth of beneficial soil micro-flora.
- Improvement and increase in soil organic carbon through the process of carbon sequestration.
- Improves soil structure by promoting micro aggregation.

method of use:-

For soil application by dilution in water/drip/mixing with fertilizers or sand

Crops/Pests/Dosage/PHI Level

Recommended quantity in all crops: 100 grams per acre

Uttam Magnesium Sulphate

(Magnesium - 9.5%, Sulphur – 12%)

Uttam Magnesium Sulphate is a secondary nutrient and is used to correct magnesium deficiency in soil. Uttam magnesium sulphate in crops also improves the absorption of Nitrogen and Phosphorous. It is best for crops that require magnesium rich soil for growth.

Quantity:

- **To overcome the deficiency of magnesium in the soil:** Apply a good magnesium sulphate 25 kg mixed with other fertilizers at the time of sowing.
- **To overcome the deficiency of magnesium in standing crop:** 2% Uttam magnesium sulphate solution (make a 2 kg of Uttam magnesium sulphate solution in 100 liters of water) and spray the crop with the help of
- spray pump.
- **Consider the above mentioned quantity as an advice and use the**

actual quantity

Do according to the soil and environmental condition of the area. for the right amount Please contact the agronomist in your area.

Storage:

- Uttam Magnesium Sulphate is very soluble in water, so take care to keep it away from high humidity during storage.
- Store the Uttam Magnesium Sulphate in a well ventilated warehouse away from sunlight.

Seed Product

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Due to their biological and economic importance, seeds are the primary basis of human livelihood. Seeds, which contain the genetics of a plant species, are the foundation of agriculture.This is the basic and most important input of sustainable agriculture on which other inputs depend. The response of all other inputs to a large extent depends on the quality of seed.It has been estimated that quality seed alone contributes about 15-20% to total production, depending upon the crop variety, which can be increased to 45% by effective management of other inputs.A good strong seed utilizes all the resources and provides proper production to the producer. It is an asset of the farmer.

The importance of seeds has been recognized since time immemorial. It is said in ancient scriptures, "Subeejam Sukshetra Jayate Sampadyate" which means good seeds in good soil yield abundant produce.

Seeds are an important source of food for humans and animals, providing essential nutrients such as carbohydrates, proteins, and healthy fats. In addition, seeds are the cornerstone of agriculture, making crop production possible and ultimately ensure food security. Seeds have a huge impact on our lives because the food we consume,The fibres in the clothes we wear, and most of the products we use in our daily lives are made from seeds only. Hence, food security is dependent on the seed security of the farming communities.

The best variety seeds are evaluated for their suitability for specific agro-climatic conditions before commercialization and then propagated through standard seed production process.Subsequently, it is tested for genetic purity and seed quality standards and then sold to farmers through various distribution mechanisms.

Our Annadaatas (farmers) always want high quality seeds that produce vigorous, uniform plants with high productivity under a variety of growing conditions.Seed quality is measured in terms of genetic and physical purity, germination, lustre, uniformity in size and freedom from seed borne diseases.Therefore, ensuring access to quality seeds is essential for success in the agricultural sector.

Hybrid Millet 1401

More yield, more fodder

Crop ready in 78-80 days

Tolerant to blast disease and lodging

Tips for profitable millet crop:-

Soil Type:- Sandy or well-drained loamy soil.
Ploughing:- Finely pulverised ploughing is essential for good germination.
Sowing time:- during Kharif season when rains start in June or July.
Seed rate:- 1.5-2 kg/acre (3.75 to 5 kg/acre).
Distance:- Mainly row to row distance is 45 cm and plant to plant distance is 10-15 cm.
weed control:- After sowing the crop and before weed germination, spray 400-600 grams of Uttam Attract mixed in 150 to 200 liters of water per acre.When the weed is at 2 to 3 leaf stage, mix 400.600 grams of Uttam Attract in 150 to 200 liters of water and spray per acre.Do hand weeding at 3 and 5 weeks after sowing.
Fertilizers:- The following fertilizer schedule is recommended for normal soils.

Time of use(kg/acre)	Urea	D.A.P	Potash
sowing time	15	40	20
3-4 weeks after germination	20	0	0
Total Kg/acre	20	0	0
6-7 weeks after germination	55	40	20

Use the following best products for best crop production and quality:-

Uttam Superhiza:- 4 kg/acre
Uttam Pranaam:- Seed treatment 100-250 ml/acre seed and one foliar spray 250 ml/acre at 30-40 days.

Irrigation:- Adequate moisture in the soil is essential during sowing, tillage, cob formation, flowering and grain filling stages to get good yield.
Protection from birds:- Crop should be protected from birds to avoid yield loss.
Caution:- Do not use the grain obtained from commercial hybrid crop as seed for next crop.Due to reduction in vigour and segregation of hybrids there will be heavy loss in yield, for higher yield use new hybrid seeds every time.
Note:-The above application methods are general suggestions. Please contact your local state agricultural department for suggestions specific to your area.

Hybrid Millet 1402

- **High yield and abundant fodder.**
- **Solid, long, angular stem**
- **Plants are tall, have strong stems and more sprouting**
- **Plump and shiny grains**
- **Ripening in 80-85 days**
- **Tolerant to powdery mildew and leaf blight**

Tips for profitable millet crop:-

Soil Type:- Sandy or well-drained loamy soil.
Ploughing:- Finely pulverised ploughing is essential for good germination.
Sowing time:- during Kharif season when rains start in June or July.
Seed rate:- 1.5-2 kg/acre (3.75 to 5 kg/acre).
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Note:-The above application methods are general suggestions. Please contact your local state agricultural department for suggestions specific to your area.

Specific Product

Uttam Pranaam

Uttam Pranam is an effective supplement to conventional phosphatic fertilizers for plants developed by Biogenic Nanotechnology method.Uttam Pranam provides phosphorus (10%) to the plants along with other essential crop nutrients like potassium (2.4%), calcium (2.4%), magnesium (0.02%), sulphur (0.02%), manganese (6.4%) and iron (0.7%).Which fulfills the nutritional requirement of crops without harming the soil and environment. Thus, essential nutrients phosphorus and micronutrients for crops are available in the same packing in Uttam Pranag.In Uttam Pranaag, phosphorus, an essential nutrient for crops, has been fortified using (PMT) technology, wherein nanoparticle complex of nutrients is combined with biological molecules like polyoligosaccharides (1%) and lipoproteins (4%).It is activated with natural shield by . This shield helps in increasing the availability and utilization efficiency of nutrients for a long time.

The size of the nanoparticles of Uttam Pranam is less than 70 nanometers (nm).Due to which it is able to enter the plants through the pores of seeds or leaves. Uttam Pranam keeps the crops healthy by ensuring good germination of seeds and proper root development.Which increases the quality and yield of crops. This product is designed for the new generation of farmers to promote smart and sustainable agriculture which is friendly to land and environmental health.

Benefits of Uttam Pranam:-

- Uniform and greater seed germination.
- Provides proper development of roots and strength to the stem of plants.
- Provides proper development of roots and strength to the stem of the plant.
- It helps in uniform and early ripening of crops.
- It helps in producing more shoots, branches, pods, ears etc. in crops.
- It improves flower, fruit formation and seed production in crops.
- It helps in increasing the crop yield by 10-12 percent.
- Crop improves the quality of produce such as size, colour, shine, oil content, taste etc.
- It helps in reducing the use of chemical fertilizers.
- Keeps the crops healthy.
- Makes storage and transportation easy.
- It helps in reducing the cost of farming and increasing the economic gain.
- Naini Fertilizer Products Recommended for Use in Organic Farming.
  Keeps the land and environment healthy.

Best Pranaam Usage Quantity and Time:-

Uttam Pranam is suitable for seed or root treatment and foliar spray.

1. treatment with Uttam pranaam:-

- Seed Treatment Cereals, Pulses, and Millets should be treated with 100 to 250 ml of Uttam Pranam per acre for the seeds used for sowing.
- Root Bubana Treatment: Dissolve 4 to 5 ml of Uttam Pranam in one litre of water and treat the roots
- Potato / Sugarcane set treatment: Dissolve 250 ml of Uttam Pranam in water and treat the seeds used for sowing per acre of area.

2. Foliar Spray:-

- Mix 2 to 3 ml of Uttam Pranam in one litre of water and spray it on the leaves.
- First spraying when shoots sprout/branches are formed Second spraying before flowering.
- In long duration crops and crops having higher requirement of Phosphorus an additional spray can be done.

Usage of pranam:-

- Spray 250 ml of Uttam Pranam in 150 liters of water per acre using knapsack sprayer.

Drone use:-

- Dissolve 250 ml of Uttam Pranam in 10 liters of water and spray it per acre.

General usage instructions for Uttam Pranam:-

- Shake the bottle well before using Uttam Pranam.
- Face mask and gloves should be worn while spraying the crop.
- For treatment of seeds/seedlings/tubers/sets with Uttam Pranam, apply a layer of liquid fertilizer on the surface of the seed, dry it in shade for 20-30 minutes and then plant/sow.
- If seeds/seedlings/tubers/sets are treated with Uttam Prana then only one foliar spray is enough to prevent flowering.
- If seed treatment is not available then do two foliar sprayings as per the above table.
- Use flat fan or cut nozzle to spray evenly on crop leaves.
- To make the spraying of Uttam Pranam more effective on crops, it should be done in the morning and evening.
- If it rains within 3 hours of spraying Uttam Pranam, it is advisable to repeat the spraying.
- Uttam Pranam can be easily mixed with water soluble fertilizers and other agricultural chemicals. However, it should be used as per the advice of agricultural experts.

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Safe use of Pesticides

Do not carry insecticides with food here and there

Keep in locked condition

Read the label and leaflet before use

Wear protective clothing

Fill using flask carefully without spilling

Do not use pesticide containers for food or water storage

Uttam Product

Keep out of reach of children

Use the recommended amount accurately

Spray in the direction of the air

Very Highly toxic

Very Toxic

Medium Toxic

Less Toxic

For various products and agricultural services of Chambal, you can contact on the following address:

Agricultural Development Laboratory -
A**gra: Mr. G.K. Verma/Mr. Rohit Kumar Patidar** 11
B/99A, Above Canara Bank, Foundry Nagar,
Hathras Road, Agra-282006 (U.P) Phone:
0562-2241762, 2240205

Kota: Dr Jagmohan Saini
Chambal Fertilizers and Chemicals Ltd. Agricultural
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P. O. Gadepan, District Kota-325208 (Rajasthan)
Phone: 0744-2782270

Head Office: Shri Jitendra Saklani
Chambal Fertilizers & Chemicals Limited
Corporate One, First Floor, 5 Commercial Centre,
Jasola, New Delhi-110025
Phone: 011-41697900

For specific information related to the use of agricultural chemicals, contact our toll-free no. Contact on **1800 180 5550.**
Email:–customercare@chambal.in

Eighth Collection, July 2025

Uttam Product

Free of cost Agricultural advice.

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