











GSFC Agrotech Limited

(Subsidiary of GSFC Ltd.)
E-mail: gatl@gsfcltd.com | contact us: 0265 3093661



GUJARAT STATE FERTILIZERS & CHEMICALS LIMITED

Fertilizernagar - 391 750, Vadodara, Gujarat.
CIN: L99999GJ1962PLC001121

Toll Free No.: 1800 123 5000

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Gujarat State Fertilizers & Chemicals Limited

stablished in 1962 at Vadodara, the story of GSFC is nearly as old as the history of Gujarat itself. GSFC was established as the first joint sector company with 49% equity participation of state government and 51% shareholding through financial institutions, individual farmers, co-operatives and public interest. Rather GSFC was the 1st company to secure direct participation of farmers in creating an industrial project.

Today, Gujarat State Fertilizers & Chemicals Limited (GSFC) has emerged as India's leading producer of bulk fertilizers and industrial chemicals. Making a modest start with bulk fertilizers, company has diverted into fibers & fiber intermediates, plastics, industrial gases & various speciality chemicals. GSFC was originally conceived as a bulk fertilizer company to improve agricultural productivity and facilitate prosperity of the farmers. After successfully establishing itself as a growing corporate company never exhibited sense of complacency and consistently focused on expansion and diversifications of production base in existing range of products and also into new products/businesses. Presently although agricultural products continue to drive the growth story of GSFC, company is among the leading manufacturers of basic petrochemical products in India, fostering manifold growth of small and medium entrepreneurs. Having proven track record as successful corporate over past more than 55 years, it is listed as one of the top Bombay Stock Exchange (BSE) 500 Companies in the country with a turnover exceeding INR 82 billion. GSFC is exporting its petrochemical products in more than 30 countries on regular basis.

Today, GSFC is one of the leading fertilizer suppliers in the country with an overall 5% market share. Today Company is supplying over 2.5 Million MT fertilizers. Besides, own production of about 1.5 Million MT, company is importing over 1 million MT fertilizers at multi ports to strengthen its market presence further. GSFC is enjoying leadership position in supply of Ammonium Sulphate in the country. In case of phosphatic sector GSFC

accounts for 8% market share in DAP and over 9% share in complexes. Fertilizer & agriculture has always remained mainstay of the company and it has enhanced its product basket from time to time. Looking to the emerging trends in agriculture, company has ventured into manufacturing of water soluble fertilizers and other high value agro products over past few years. During its journey, company has promoted many independent corporates in various sectors including fertilizer, micro irrigation, power, port operations, education etc.

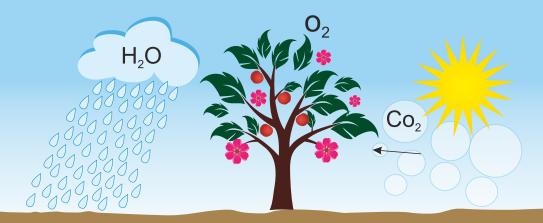
GSFC already enjoys a strong market presence in the agro business sector. It is a well-established and recognized brand across India with 15 Regional offices, 28 Area Offices and a cluster of about 500 warehouses. The company recently constituted GSFC Agrotech Limited (GATL) to further increase its retail outreach and consolidate its market proposition, especially in agro products.

GATL is promoting Agro Products & Agro Services to bring unprecedented evolution in Agri Business. Major products marketed by GATL are Plant Protein based growth promoters. Liquid Bio-Fertilizers. Tissue Culture Plants.





MAJOR NUTRIENTS FOR THE GROWTH OF PLANT



Primary nutrients







Micro-nutrients

Secondary nutrients





















DEFICIENCY CHART OF MICRONUTRIENTS

Boron: Discoloration of leaf buds. Breaking and dropping of buds.

Sulphur : Leaves light green. Veins pale green. No spots.

Manganese: Leaves pale in color. Veins and Venules dark green and reticulated.

Zinc: Leaves pale, narrow and short, veins dark green and edges.

Magnesium: Paleness from leaf edges. No spots. Edges have cup shaped folds. Leaves die and drop in extreme deficiency

Phosphorus: Plant short and dark green. In extreme deficiencies turn brown or black. Bronze colour under the leaf.

Calcium: Plant dark green. Tender leaves pale. Drying starts from the tips. Eventually leaf bunds die.

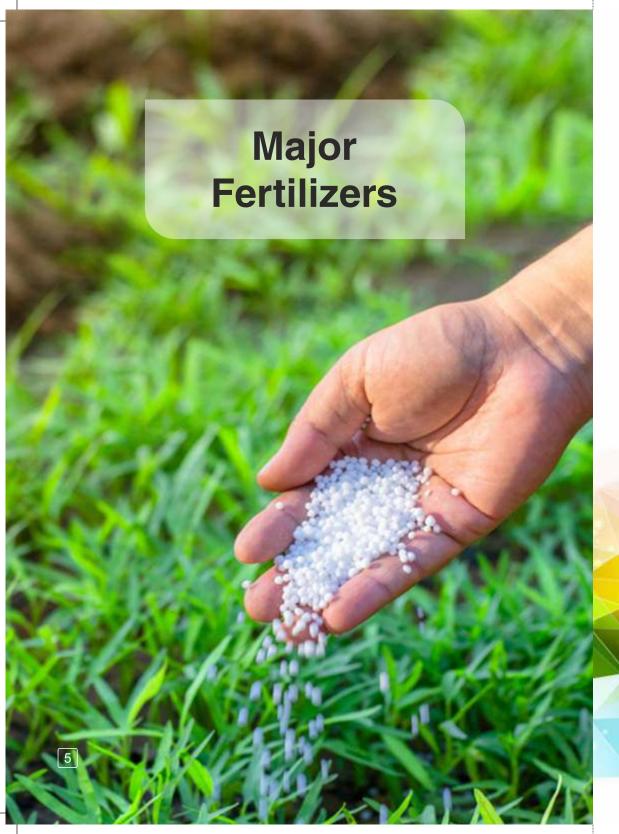
Iron : Leaves pale. No spots. Major veins green.

Copper: Pale pink between the veins wilt and drop.

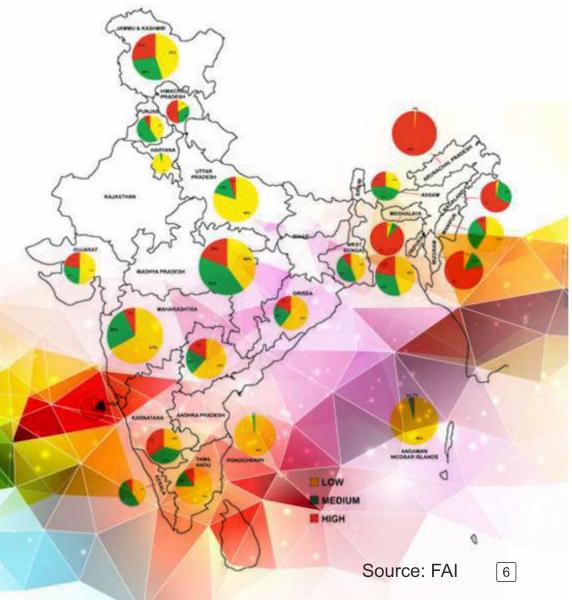
Molybdenum: Leaves light green/ lemon yellow/orange. Spots on whole leaf except veins. Sticky secretions from under the leaf.

Potassium: Small spots on the tips, edges of pale leaves. Spots turn rusty. Folds at tips.

Nitrogen: Stunted growth. Extremely pale color. Upright leaves with light green/ yellowish. Appear burnt extreme deficiency.



NITROGEN DEFICIENCY STATUS OF INDIAN SOIL



NEEM COATED UREA

N: 46.2% (Amide form)

Packing: 45 kg

Benefits/Advantages:

- Slow release of nitrogen by extending the urea hydrolysis for a longer period
- Improves growth and yield
- Contains pesticide properties
- Reduces nitrogen losses by leaching and denitrification
- Regulates supply of nitrogen

Dosage/Recommendation:

- As per crop wise standard recommendation & soil test values
- Recommended for all crops as top dressing application

DI-AMMONIUM PHOSPHATE

N: 18% , $P_2O_5: 46\%$

Packing: 50 kg

Benefits/Advantages:

- Important source of Phosphorous
- Helps plants utilise moisture better
- · Makes roots grow stronger and deeper
- Minimum loss of Nitrogen (Ammonical form) due to leaching
- Balanced nutrition Nitrogen + Phosphorous

- As per crop wise standard recommendation & soil test values
- Used in basal application due to slow releasing nature
- Main fertilizer for all major crops
- Used as a supplementary dressing for long duration crops



AMMONIUM SULPHATE

N: 20.5%, **S:** 23% **Packing:** 50 kg

Benefits/Advantages:

- GSFC's own manufactured product with world proven caprolactam technology having Global Standards
- Sulphur increases oil content of oilseed crops, protein production & activation of metabolic enzymes
- Nitrogen(Ammonical form) readily available to plant during the life cycle of the plant
- Minimal leaching volatile loss & better cost benefit ratio compared to Urea
- It has pesticide value

Dosage/Recommendation:

- As per crop wise standard recommendation & soil test values
- Recommended for all crops, largely used in paddy, oilseed crops, pulses, plantation crops
- Also recommended in water logging field

AMMONIUM PHOSPHATE SULPHATE

N: 20%, **P**: 20%, **S**: 13%

Packing: 50 kg

Benefits/Advantages:

- Contains triple power of N, P & S
- Greater mobility in soil due to high water solubility.
- Less hygroscopic-suitable for variety of soils and crops
- Nitrogen in Ammonical form having higher efficiency
- Phosphorus soluble upto 87%, sulphur 100% water soluble.

Dosage/Recommendation:

- As per the crop wise standard recommendation & soil test values
- Normally used as basal dose but can be used at any stage of crop
- Recommended for all major crops. Has special importance for sulphur loving crops

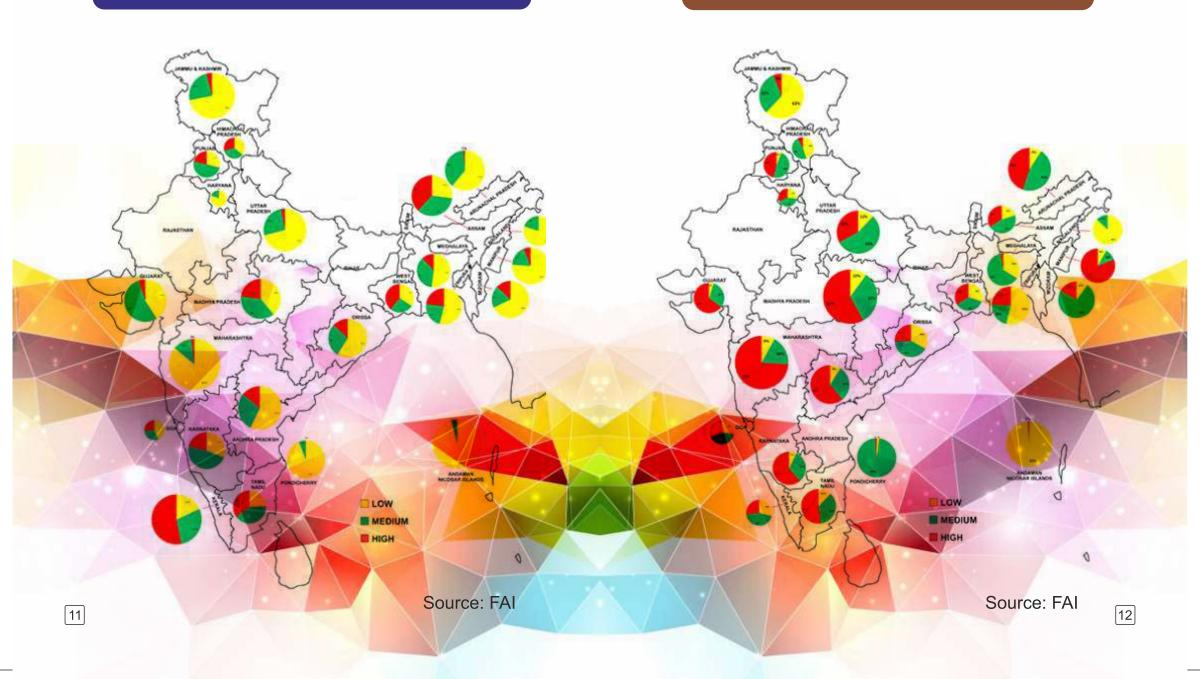
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PHOSPHORUS FERTILITY STATUS OF INDIAN SOIL

POTASSIUM FERTILITY STATUS OF INDIAN SOIL



NPK (12:32:16 & 10:26:26)

Packing: 50 kg

Benefits/Advantages:

- Complex fertilizer having all 3 major nutrients N, P & K in balanced proportion
- Improves quality and yield of crops as Phosphorus is completely water soluble
- Lower concentration of Nitrogen(Ammonical form) keeps crop green for longer period
- Helps in restoring balance of NPK ratio

Dosage/Recommendation :

- As per crop wise standard recommendation & soil test values
- Used in basal application for wheat, paddy, maize, pulses, sugarcane, vegetables, etc.

Boronated NPK (12:32:16)

Packing: 50 kg

Benefits/Advantages:

- Fortified with 0.2-0.3% Boron
- Complex fertilizer having all 3 major nutrients N, P & K with additional benefit of Boron
- Boron Increases flowering and cell division
- Regulates hormone production and oil production
- Facilitates & balanced plant nutrition and regulates NPK value

- Recommended for all major crops
- Specifically recommended for Boron deficient soil





WSF 19-19-19

N:19%, **P**:19% **K**:19%

Packing: 1 Kg, 5 Kg & 25 Kg

Benefits/Advantages:

- Maintains NPK nutrient balance
- Instant uptake of nutrients by plants
- Prompts root & shoot development
- Contains Mg, Zn, Fe, Co, Mn, B, Mo
- Being acidic helps in maintaining drippers free of salts in drip irrigation system

- Can be used with any type of pesticides
- Suitable for the fertigation, foliar application
- Recommended for fruits, flowers, vegetables, cereals, pulses, cotton, cane & tea
- It can be applied at any stage of the crop



WSF 0-52-34

P: 52% **K:** 34%

Packing: 1 Kg, 5kg & 25 Kg

Benefits/Advantages:

- Chloride free, lowest salt index prevents clogging of drip
- Improves fruit size, luster, uniform color and taste of fruit & yield
- Improves resistance to adverse weather and pests
- Promotes flowering & fruit setting
- Reduces flower & fruit dropping

Dosage/Recommendation:

- Recommended during initial developmental stage of plants
- Recommended in alkaline soils for best results
- Suitable for foliar spray & drip irrigation application
- Recommended for tomato, sugar beet, onion, potato, groundnut, legumes, fruits, flower and commercial crops

WSF 17-44-0

N:17%, **P**:44%

Packing: 1Kg, 5 Kg & 25 Kg

Benefits/Advantages:

- Best replacement of DAP
- Economic source of 'P'
- Reduces 'N' volatilization
- Gives impressive increase in yield & quality of crop
- Helps to un-clog the drippers of MIS
- Being acidic neutralises the pH of alkaline soil & enhances efficiency of nutrients applied

Dosage/Recommendation:

- Suitable for fertigation & base fertilizer
- Not recommended for foliar spray due to acidic nature
- Recommended for fruits, flower, cereals, pulses & all commercial crops

सरदार

WSF

17-44-0



WSF 13-0-45

N: 13% **K**: 45%

Packing: 1 Kg, 5Kg & 25 Kg

Benefits/Advantages:

- N in nitrate form readily available plus rich source of potash
- Helps in formation of sugar during fruit setting
- Reduces dropping of immature fruits
- Improves shape, size and quality of fruits/seeds
- Helps in uptake of Ca, Mg & K by crops
- Less hygroscopic

Dosage/Recommendation:

- Suitable for the fertigation & foliar spray
- Recommended for grapes, banana, cotton, pomegranate, tomato, onion, sugarcane, ginger, turmeric, watermelon

WSF 12-61-0

N:12% P: 61%

Packing: 1 Kg, 5Kg & 25 Kg

Benefits/Advantages:

- Highly concentrated source of P along with N
- Helps in fast and healthy vegetative growth & root growth
- Less hygroscopic and hence can be applied with other fertilizers
- Low salt index free from Na & Cl
- Improves uptake of other nutrients

- Recommended before flowering & at initial stages
- Suitable for the fertigation, foliar application, drip irrigation and hydroponics



WSF 0-0-50

K: 50%,

Packing : 1Kg, 5Kg & 25 Kg

Benefits/Advantages:

• Cheapest source of K (Chloride free)

Also contains 18% S

• Increases shelf life of the crop in post harvest

• Increases resistance against pest, diseases and abiotic stress

Dosage/Recommendation:

• Suitable for the fertigation in salty soil & drip irrigation and foliar spray

Recommended during post flowering stage

• Recommended for tobacco, groundnut, potato, onion, tomato, beet, garlic, citrus, etc.

CALCIUM NITRATE

Ca: 18.8%, **N:** 15.5% (Nitrate form)

Packing : 5kg, 10kg & 25kg

Benefits/Advantages:

• Contains 100% soluble Calcium

• N in nitrate form – preferred for fruit & field crops

• Improves strength of cell wall – increasing shelf life of marketable produce

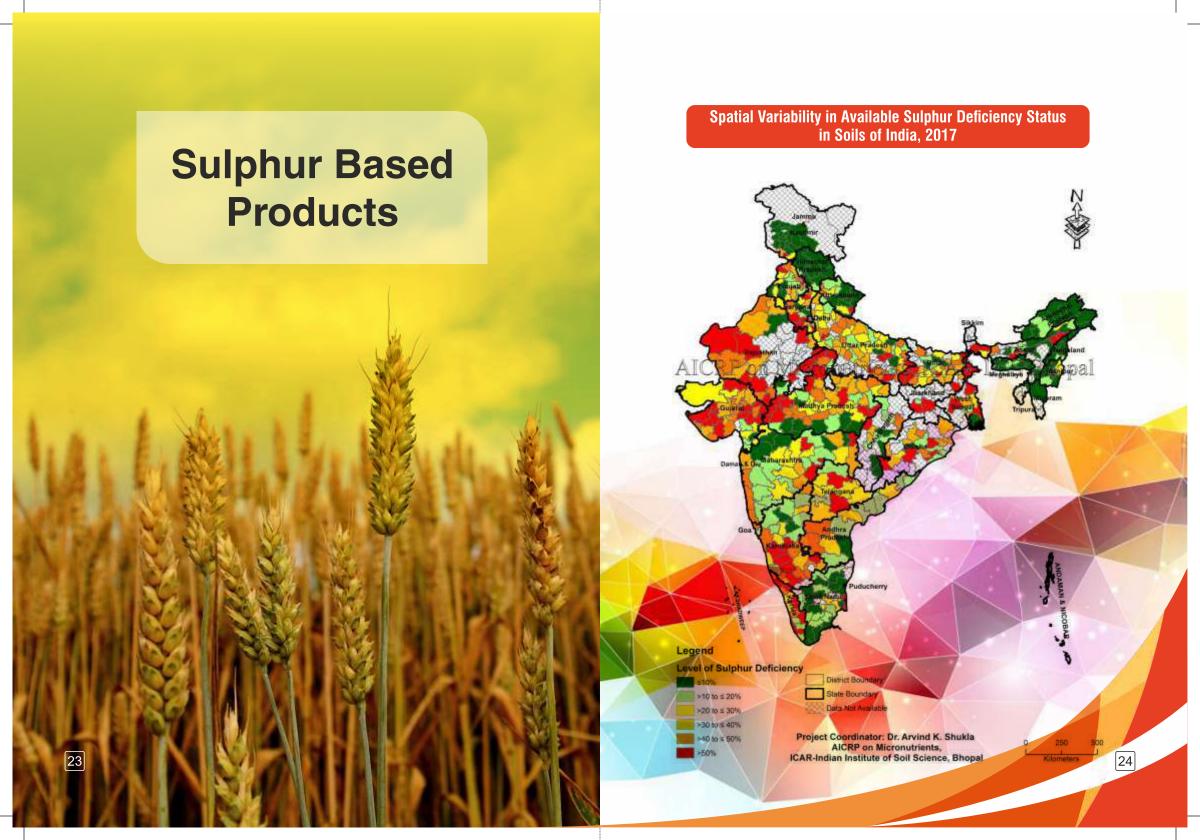
Corrects Calcium deficiencies

Dosage/Recommendation:

• Suitable for foliar, drip irrigation and as base fertiliser.

• Recommended for vegetables, fruits and flowers





BENTONITE SULPHUR

S: 90% pure elemental Sulphur

Packing: 5 kg & 10 kg **Benefits/Advantages:**

- Helps in fast solubility of Sulphur making it readily available to plants
- Sulphate Sulphur available for entire life span of crop due to slow release.
- Minimal soil leaching losses until converted to Sulphate form

Dosage/Recommendation:

- Recommended just before top dressing
- Can be applied along with WSF through drip @ 1Kg /Acre
- 8 kg to 10 kg per acre (depending on crop)
- Recommended for oil seeds, legumes, cash crops, cereals, horticulture crops, fodder crops, etc.

SULPHUR WDG (Water Dispersible Granules) 90%

S: 90%

Packing: 3 kg pouch (3*10 pouch = 30 kg drum)

Benefits/Advantages:

- Helps in maintaining pH of soil, thereby improves overall nutrient uptake
- Sulphur plays a key role in synthesis of protein, oil & vitamins and formation of Chlorophyll
- Improves pungency of chilly, garlic and onion
- Increases crop yields and improves produce quality
- It has fungicidal value

Dosage/Recommendation:

- Recommended just before top dressing
- Can be applied along with WSF through drip@1Kg/Acre
- 3 Kg/Acre (depending upon crop)
- Recommended for oil seeds, legumes, cash crops, cereals, horticulture crops, fodder crops, etc.

Sulphur



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MAGNESIUM SULPHATE

Mg: 9.6%, **S:** 12% **Packing:** 25 kg

Benefits/Advantages:

- Helps in chlorophyll and protein synthesis, enzymatic reactions and vitamin production
- Major component of proteins.
- Prevents and corrects Magnesium or Sulphur deficiencies
- Compatible with most WSF, except those containing calcium

Dosage/Recommendation :

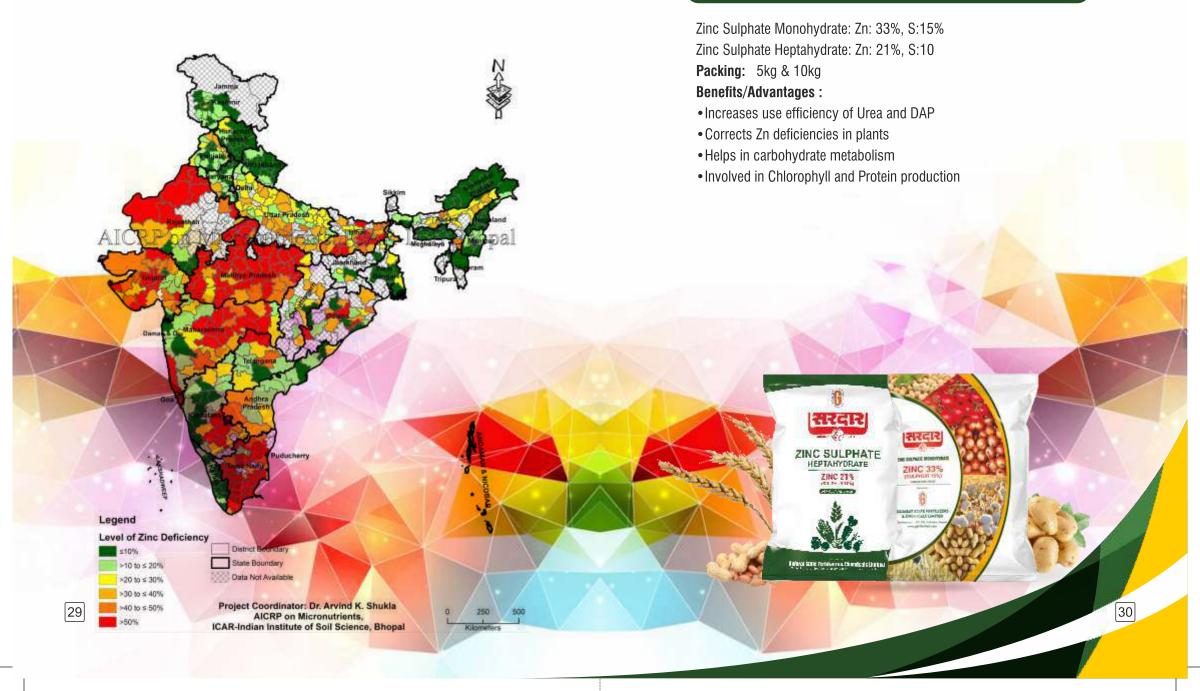
• For foliar & drip Irrigation



Micronutrients



Spatial Variability in Available Zinc Deficiency Status in Soils of India, 2017



ZINC SULPHATE

(Monohydrate & Heptahydrate)

MICRO MIX

Zn: 6%, **Fe**: 4%, **Cu**: 0.5%, **Mn**: 1%, **B**: 0.5%

Packing: 250g

Benefits/Advantages:

- Corrects deficiency of all important micro nutrients Zn, Fe, Cu, Mn, B
- It has very high cost- benefit ratio

Dosage/Recommendation:

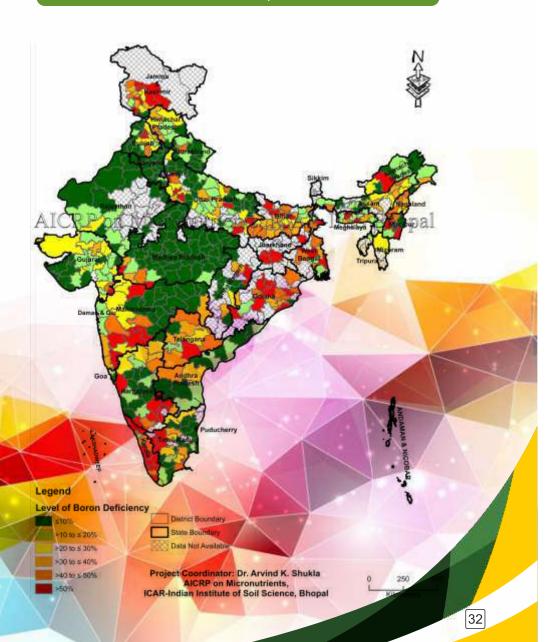
- Recommended for foliar spray
- 250g for 1 acre of standing crop
- Recommended for fruits, vegetables, oil seeds, cotton, tobacco, flowers, etc.

માઈકો મીક્ષઃ G-4 CH

જર્ચોનમાં રહેલ આવર્ન અને ઝીંકની ખામી દુર કરવા માટે

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Spatial Variability in Available Boron Deficiency Status in Soils of India, 2017



BORON

Boron as B -20% (100% water soluble)

Packing: 250g

Benefits/Advantages:

- Increase N₂ availability to the plant
- Influences cell division & elongation
- Involved in the nodulation of legumes

Dosage/Recommendation:

- Suitable for foliar application and drip irrigation
- For vegetables, pulses, floriculture crops



Plant Growth Promoters

SARDAR AMIN GRANULES

Packing: 5 kg ,8 kg Bag & Bucket

Benefits/Advantages:

- It is plant protein based Amino Acid
- Provides balanced nutrition of C, N, P, K, Zn, Mn, Fe and Amino Acids
- Helps in seed germination and root development
- Maintains plant health against adverse conditions
- Increases flower & fruit setting
- •Increases yield & quantity, appearance/shine of produce
- Provides resistance to biotic & abiotic stresses

Dosage/Recommendation:

- Two times soil application @ 8 Kg/acre for all crops at sowing/transplantation/during vegetative growth period is recommended.
- Recommended for cotton, paddy, wheat & other cereal crops, vegetables, groundnut, mustard, sunflower, soyabean, potato, onion, garlic, ginger, turmeric, sugarcane, banana & tea.

SARDAR AMIN LIQUID

Packing: 500ml & 1 litre Bottle

Benefits/Advantages:

It is plant protein based Amino Acid

- Provides balanced nutrition of C, N, P, K, Zn, Mn & Fe and Amino Acids
- · Helps in seed germination and root development
- · Improves plant health against stresses
- · Increases flower & fruit setting
- Increases yield & quantity, appearance/shine of produce
- Provides resistance to biotic & abiotic stresses

- Minimum 2 foliar spray @ 250ml in 100 L water /acre for all crops at flowering and fruiting are recommended
- Recommended for cereal crops, pulses, oilseeds, cotton, vegetables, fruits and plantation crops



Organic Products



LIQUID BIO FERTILIZERS

Packing: 500ml & 1litre Bottle

Azotobacter & Azospirillum:

- Contains live micro organisms which helps in fixation/releasing plant
- Fixes 20-25 Kg Nitrogen per acre
- Applicable in cereals, cash crops, horticultural crops

Phosphate Solubilizing Bacteria

- 20-25 kg Phosphorus per acre is solubilized by producing organic acids
- Can be applied in all crops

Benefits/Advantages

- Increases yield, suppresses plant pathogens and maintains soil fertility
- Used in seed treatment, soil application & most effective method i.e. drip Irrigation

Dosage: 500 ml/acre

PSEUDOMONAS

Packing: 1kg

- It is biological fungicide, nematicides and a plant growth promoting rhizospheric bacteria
- A potential bacterial antagonist produces antibiotics, siderophores and hydrogen cyanide to control plant disease
- Protects crops from sheath blight of rice, sheath blight of banana and many other diseases caused by various pathogenic fungal species

Dosage/Recommendation:

- Applicable for all crops
- Apply the product @ 1kg/acre mixed with 20-25 kg FYM
- Mix 1 kg product in 200 L water and apply in 1 acre

TRICHODERMA

Packing: 1kg

- Antagonistic Fungus effective for the control of seed and soil borne diseases
- Trichoderma kills several major root rot fungi: *Pythium*, *Rhizoctonia* and *Fusarium* and also protects the roots from any stress
- It shows antibiosis effect by secreting secondary metabolites

- Recommended for majority economically important crops, especially pulses and oil seeds
- Apply the product @ 1kg/acre mixed with 20-25 kg FYM
- Mix 1 kg product in 200 L water and apply in 1 acre



VAM - MYCORRHIZA

Packing: 1kg & 5 kg

- Biological fertilizer based on spores and fragments of mycorrhizal fungal filaments and infected root bits
- Mycorrhiza starts associating symbiotically with the root of the plants
- This helps the plant in the absorption of water, phosphorus solubilisation and uptake of other essential macro and micro elements

Application & Dosage:

Plants care

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Apply 250 gm VAM in 100 Sq. Mtr. area during land preparation

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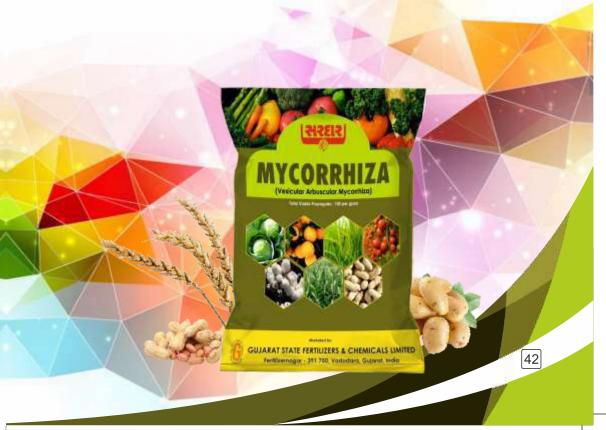
VAM - MYCORRHIZA

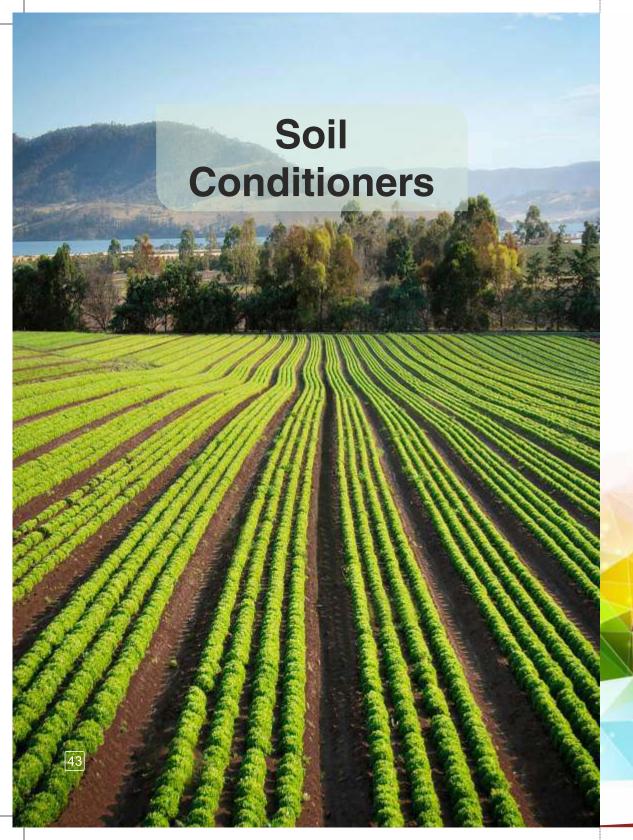
Soil care

 Use 3 kg VAM per acre in furrow of maize, sorghum, wheat, soya bean, groundnut etc.

Seed Application

 Coat 1kg seed with jaggery solution and spray 100 gm VAM. 500 to 1000 gms per acre depending upon different crop seeds





GYPSUM GRANULES

Ca: 16.5% (max), S:13% (min) enriched with Mg(0.15% min), Zn (0.20% min) , B(0.12% min) & $P_2O_5(0.25\%$ min)

Packing: 25kg Bag
Benefits/Advantages:

- It works as soil amendment agent
- Enriched with micronutrients (Ca, Mg, Zn, S, B, P)
- Improves soil structure
- Helps reclaim sodic soil
- Improves crop produce, quality & Yield
- It can easily be broadcasted and applied at any stage of the crop
- Very economical nutrient supplement

Dosage/Recommendation:

100-500 kg/hectare based on nature of soil & nutrient requirements



CITY COMPOST

Packing: 50kg

Benefits/Advantages:

- It is used as an 'organic manure' for fertility of soil
- Increases efficiency of chemical fertilizers
- Improves physical properties of the soil
- Supplements major & minor nutrients

Dosage/Recommendation:

- •3 to 4 bags per acre at the time of land preparation
- 1 to 2 bags mixed with chemical fertilizer for top dressing application

PHOSPHO GYPSUM (Dry basis)

CaSO₄ 2H₂0: 94.21 %

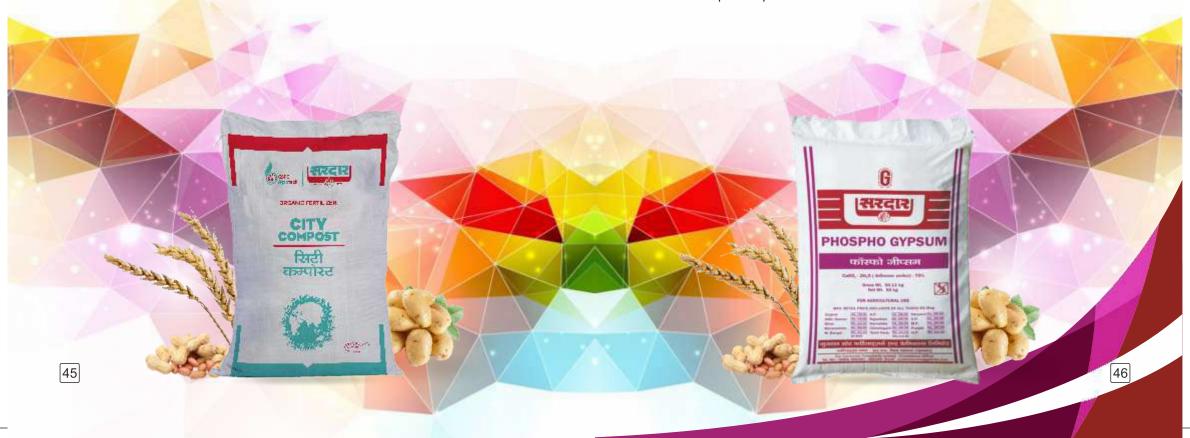
Packing: 50kg HDPE bag & in form of loose powder "as is where is basis"

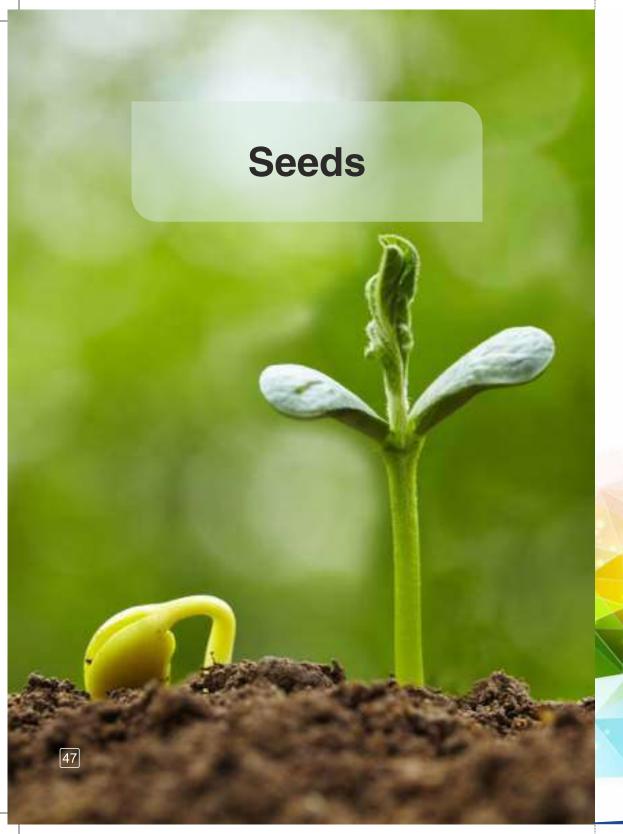
Benefits/Advantages

- It works as soil amendment agent to remove saline/alkaline ingredients in the soil
- It acts more or less like manure
- Enriches the soil with Ca & S nutrients
- Very economical nutrient supplement

Dosage/Recommendation:

As per soil pH and structure





HYBRID BAJRA SEED

Packing: 1.5kg

Variety:

Sardar Bajra Hybrid-111 (SBH-111)

Salient Features:

- Medium maturity period
- High grain and fodder yield
- Long, compact and uniform ear heads
- Recommended for Gujarat, Rajasthan, MP and UP States



HYBRID BAJRA SEED

Packing: 1.5kg

Variety:

Sardar Bajra Hybrid-444(SBH-444)

Salient Features:

- High grain and fodder yield
- Long compact ear head
- Medium to tall plant with lodging tolerance
- Recommended for Gujarat, Rajasthan, MP and UP States

HYBRID MAIZE SEED

Packing: 4kg

Variety:

Sardar Maize Hybrid-211(SMH-211)

Salient Features:

- High yielding hybrid
- Suitable for Kharif & Rabi season
- Tolerant to major pests & diseases
- Medium tall plant and suitable for more plants in unit area
- Recommended for cultivation in all maize growing areas



HYBRID MAIZE SEED

Packing: 4kg

Variety:

Sardar Maize Hybrid-411(SMH-411)

Salient Features:

- High yielding hybrid
- Maturity period 90 to 95 days
- Medium tall plant
- Attractive grains, Seed colour is orange- yellow, semi flint
- Good responsive to high input management
- Tolerant to major pests & diseases
- Recommended for cultivation in all maize growing area

WHEAT SEEDS

Packing: 40Kg

Variety:

- HD-2967, HD-3086, PBW-343, Unnat PBW-343, PBW-373, PBW-502, PBW-550: Recommended for all wheat growing states in North India
- GW-496 ,Lok-1, GW-451
- Recommended for Gujarat



SOYBEAN SEEDS

Packing: 25kg & 30Kg

Variety:

JS-335, JS-9560, JS- 9305

Recommended for all Soybean growing states.

CASTOR SEEDS

Packing: 2kg

Variety:

GCH-7, GCH-4, GCH-2

Recommended for Gujarat



GROUNDNUT SEEDS

Packing: 20Kg

Variety:

GG-20, TAG-24, TG 37-A

Recommended for all groundnut growing states

PADDY SEEDS

Packing: 25Kg & 30Kg

Grade:

Gurjari, GR-13, GR-11

Recommended for Gujarat





TISSUE CULTURE SUGARCANE (TCS)

Variety: CO - 86032

Production capacity: 0.5 million plants annually

Advantages :

- True to type and disease free plantlets
- Better germination, tillering and cane yield
- Minimum mortality. Maximum survival of the hardened plantlets under field condition
- Planting material obtained from tissue cultured plant if used for commercial plantation then it results in to
 - Increases sugarcane yield
 - Increased recovery
 - Increased by-products production resulting into higher biomass

NOTES





