



DIATOMEGA

INNOVATIVE MINERAL SOLUTIONS



AGRICULTURAL PRODUCT CATALOGUE



DIATOMEGA

INNOVATIVE MINERAL SOLUTIONS

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At Diatomega, we are committed to making a positive impact on the world by providing premium mineral-based products that contribute to sustainable agriculture.

DANIEL GUZMAN, CCO

INTRODUCING DIATOMEGA

YOUR PARTNER IN INNOVATIVE MINERAL SOLUTIONS FOR AGRICULTURE

Diatomega is a pioneering company dedicated to the advancement and promotion of innovative mineral products for agriculture and gardening. With a strong emphasis on sustainability and environmental stewardship, we are committed to providing premium mineral solutions that revolutionize the way we cultivate and nurture our crops and gardens.

At Diatomega, we understand the critical role that agriculture plays in our society. As the global population continues to expand, the demand for food and agricultural products grows exponentially. However, traditional farming practices often rely heavily on chemical-based solutions that pose risks to human health, plant life, and the ecosystem as a whole. This realization led us to embark on a mission to develop sustainable alternatives that are both effective and environmentally friendly.

Partnering with Diatomega means gaining access to innovative and effective solutions that prioritize the health of your crops, the planet, and those who work the land.

With our premium products, you can confidently embrace sustainable agriculture and gardening practices, securing a brighter and greener future for all.

As a company, we prioritize customer satisfaction and aim to build lasting relationships with our customers. We provide comprehensive support and guidance to help our customers navigate the complexities of modern agriculture and gardening. Our team of experts is always available to offer personalized recommendations and assistance, ensuring that our customers achieve the best possible outcomes.

Contact us today to learn more about how Diatomega can transform your agricultural and gardening operations.

Together, let's nourish the Earth to nourish humanity.



By harnessing the power of technology, we empower farmers and gardeners to achieve exceptional results in a sustainable manner.

ALEXANDER YAGNATIEV, CFO





THE NEED FOR SUSTAINABLE AGRICULTURE

CHALLENGES AND SOLUTIONS

Agriculture requires continuous innovation for better results. Throughout history, intensive agriculture has emerged to meet the food needs of a growing population. However, traditional agriculture faces challenges such as pollution, harmful chemicals affecting consumers' health, and increasing pesticide resistance to pests.

High-intensity agriculture results in excessive nutrient extraction rates from the soil, compounded by poor agricultural practices. Consequently, this has led to a significant fertility problem in various regions worldwide. These circumstances give rise to a range of issues, including environmental contamination and disruptions, resulting in compromised crop yields and food quality.

THE CHALLENGES WITH TRADITIONAL FERTILIZATION

- Focus on specific elements neglects comprehensive plant nutrition, leading to deficits and soil erosion.
- Environmental contamination through evaporation and leaching results in the loss of applied elements.
- Soil salinization occurs due to chemical fertilizers, making the soil less suitable for agriculture.

THE CHALLENGES WITH TRADITIONAL ORGANIC FERTILIZATION

- Limited nutrient supply
- Potential pathogenic effects
- Nutrient imbalances

Meeting the growing food needs requires nutrient-rich, sustainable agricultural practices. It creates an opportunity for eco-friendly, naturally sourced products.

We offer an environmentally friendly solution by providing a high quantity of nutrients for sustainable agriculture, countering the challenges posed by traditional fertilization methods.



OUR COMMITMENTS

LONG-TERM IMPACT

We provide tools to facilitate the development of sustainable agriculture for a lasting positive impact.

INCREASED PRODUCTIVITY

Maximize your returns with our effective products, ensuring better application and higher profitability.

INTEGRAL SOLUTIONS

Address all types of agricultural plant & soil problems with our range of preventive and corrective solutions.

ENVIRONMENTALLY FRIENDLY

Mitigate the environmental impact of high-intensity agriculture with our natural alternatives.

OUR INNOVATION

MINERAL4ALL

The Premium Mineral Complex

is our leading agricultural product that offers comprehensive plant nutrition for sustainable and impactful agriculture.

Crafted from natural minerals carefully selected to complement each other, it provides complete soil remineralization and optimal plant nutrition.

It enhances plant growth, vitality, and acts as a soil conditioner at the same time. By replenishing essential minerals and trace elements, it promotes soil health, ensuring balanced and nutrient-rich conditions for plant growth and resilience.



OUR PRODUCT LINE FOR AGRICULTURE



Mineral4All

THE PREMIUM MINERAL COMPLEX

Introducing MINERAL4ALL The Premium Mineral Complex,

the revolutionary solution for comprehensive plant nutrition and sustainable agriculture. With its unique blend of 14 essential elements, 39 trace elements, and natural minerals, Mineral4All provides unparalleled support for healthy crop growth while minimizing environmental impact.

Say goodbye to traditional fertilization problems and unlock the potential of your plants with Mineral4All - the game- changer in agricultural innovation.



MINERAL4ALL The Premium Mineral Complex

COMPREHENSIVE NUTRITION FOR HEALTHY PLANTS, SOIL & SUSTAINABLE AGRICULTURE

Mineral4All is a premium mineral complex for all plants and soil. It's 100% natural and covers the complete nutritional spectrum required for optimal plant growth. It provides high assimilable quantities of essential macroelements (N, P, K), secondary elements (Ca, Mg, S), and microelements (Fe, Mn, Cu, Zn, B, Mo).

Additionally, it offers high-quality silicon (Si), sodium, aluminum, and 39 trace elements. These elements work synergistically to deliver physical, chemical, and biological benefits to both soil and plants.

Mineral4All revitalizes soil by providing a rich natural source of nutrients. It eliminates pathogens, allowing soil to regain its vitality while minimizing the environmental impact of agriculture. Preventive protection is provided through natural elements like copper, sulfur, and silicon, strengthening the defense system of plants. This helps plants become more resistant to both abiotic and biotic stresses.

Mineral4All is composed of high-quality natural minerals, ensuring minimal pollution and respecting underground water bodies. It offers comprehensive plant nutrition while protecting the environment.

EXPERIENCE THE DIFFERENCE

Mineral4All is a truly unique product that offers comprehensive soil remineralization and plant nutrition.

ALL NATURAL COMPONENTS

Made from natural minerals that synergistically complement each other,

OMRI LISTED

It is also suitable for organic crops as being OMRI listed as well.

SUSTAINABLE PRODUCT

Join the movement towards sustainable agriculture with Mineral4All – the 100% biodegradable natural solution for healthy plants and a greener future.

MINERAL4ALL The Premium Mineral Complex

ALL IN 1



OUR PREMIUM MINERAL COMPLEX ACTS AS:

NATURAL FERTILIZER

SOIL CONDITIONER

PH LEVELER

CROP GROWTH ENHANCER

NATURAL PEST CONTROL

AS A RESULT



HEALTHY SOIL



STRONG HEALTHY CROPS



HIGH CONSISTENT YIELDS

ACTIVE INGREDIENTS

- Nitrogen (N) 2.5-5%
- Phosphorus (P) 0.3-1%
- Potassium (K) 0.25%-1%
- Sulfur (S) 2-5%
- Boron (B) 50 ppm
- Silicon phosphate (Si) 27-37%
- Calcium (Ca) 15-25%
- Molybdenum (Mo) 5 ppm
- Sulphates (SO₄) 0.28%
- Sodium (Na) 3 ppm
- Magnesium (Mg) 0.7-1%
- Copper (Cu) 5 ppm
- Carbonates (CO₃) 33-45%
- Calcium carbonate (CaCO₃) 50-60%
- Magnesium carbonate (MgCO₃) 5%
- Manganese 124 ppm
- Iron (Fe) 0.2-50%
- Zinc (Zn) 29 ppm
- 39 trace elements
- Others: Humic acid, Fulvic acid, central and pennate diatoms
- No hazardous components or heavy metals



Mineral4All
THE PREMIUM MINERAL COMPLEX

APPLICATION INSTRUCTIONS

- Agricultural/Horticultural crops: 500kg to 1 t/ha

HOW TO APPLY

- Foliar Spray
- Soil Incorporation

PRODUCT DETAILS

The raw material used - 100% naturally sourced from the earth

Appearance - Light brown powder (dry powder in 325 mesh)

Odour - Slightly pungent

Density - 1.24 pH (250C) - 7.8

Solubility in water - Insoluble in water

Shelf life - 3 years

Packaging: bags of 1 and 8kgs. Sacks of 25kgs netto

FIND OUT MORE ABOUT
KEY NUTRIENTS ON PAGE 15

BENEFITS

Mineral4All sets the standard for premium mineral complexes in the agricultural industry.

With its 100% natural composition, balanced nutrients, and superior efficacy, it is the optimal choice for nurturing your plants and soils.

COMPREHENSIVE PLANT NUTRITION

Mineral4All provides a rich source of 14 essential macro and microelements, along with over 39 trace elements, ensuring comprehensive nutrition for your crops.

ENHANCED PLANT DEVELOPMENT

Mineral4All increases plant stem thickness, strengthens roots, and accelerates overall plant growth. It also improves qualities such as sweetness and color in crops.

MICROBIAL STIMULATION

It retains and stimulates beneficial micro bacteria in the soil, promoting a healthy soil microbiome that supports plant growth and nutrient uptake.

SOIL CONDITIONING

It neutralizes heavy metals, restores soil fertility, and improves soil structure, promoting better root development and enhancing cation exchange. It also facilitates better oxygen circulation and increases moisture retention in the soil, and help correcting saline soils.

PH LEVELER

Mineral4All balances the pH of both acidic and alkaline soils within approximately 72 hours after applying, facilitating the assimilation of nutrients in neutral soils.

**CAN BE USED
IN ORGANIC
OPERATIONS.
OMRI LISTED**



BENEFITS

Experience the transformative power of Mineral4All and unlock the full potential of your crops while ensuring a sustainable and environmentally conscious approach to cultivation.

IMPROVED PLANT HEALTH

Mineral4All strengthens the mechanical resistance of cell walls, hardens plant tissues, and enhances the plant's resistance to pests and diseases. It also activates the plant's self-defense system, leading to the synthesis of enzymes and phytoalexins.

HIGH QUALITY ASSIMILABLE SILICON

With its assimilable silicon (Si) content, Mineral4All enhances plant health and resistance to biotic and abiotic stress, reduces transpiration and water loss in drought conditions, and protects against excess ultraviolet radiation. It can also act as a natural preventive insecticide.

VIBRANT LEAVES AND FLOWERING

Mineral4All contributes to leaves' color and shine, enhancing their visual appeal. Additionally, it supports robust flowering in plants.

TRACE ELEMENT INTERACTION

Mineral4All contains over 39 trace elements that interact synergistically, providing all the necessary minerals required by plants.



**ANY CROP
ANY SOIL
AT ANY TIME**

VERSATILE APPLICATION

Mineral4All is suitable for both organic and traditional crops and can be used in conjunction with other fertilizers for optimal results. It can be used on any soil, for any crop at any time.



MINERAL4ALL The Premium Mineral Complex

NATURAL PEST CONTROL

Diatomega takes pride in our innovative approach to pest control. We recognize the need for effective insecticides that do not harm human health or the environment. That's why we have developed natural insecticides that provide reliable protection against pests without relying on harmful chemicals.

Our natural insecticides are derived from organic sources and have been proven to safeguard crops and gardens while preserving the delicate balance of the ecosystem.

We have developed alternatives to chemical insecticides, ensuring the health and safety of your crops, plants, and the environment.

Mineral4All NATURAL CONTROL actively defends crops against exoskeleton insects such as red spider, ants and beetles. Its high silicon content causes dehydration, making pests unable to generate resistance. No harmful side effects or chemicals are involved.

Natural preventive insecticide

Mineral4All has assimilable silicon (Si) in its formula. Silicon is an excellent natural insecticide that acts physically and mechanically, protecting crops.

Prevents and eliminates fungal disease

Reduces insect damage when it applied both via soil as well as foliar spray



MINERAL4ALL The Premium Mineral Complex

WHERE TO APPLY

TRADITIONAL AGRICULTURAL OPERATIONS

GRAIN STORAGE FACILITIES

ORGANIC AGRICULTURAL OPERATIONS

GREENHOUSES AND VERTICAL FARMS

SOIL RECOVERY PROJECTS FOR ERODED
AND DEPLETED AGRICULTURAL SOILS

PARKS AND GARDENS

NURSERIES AND PROPAGATION SITES

GOLF COURSES & ORNAMENTALS



These are just a few examples of where our products find application.
Contact us to explore how our solutions can benefit your specific needs.

MINERAL4ALL The Premium Mineral Complex

WANT TO TEST OUR PRODUCT?

EXPERIENCE THE QUALITY OF OUR PRODUCT FIRSTHAND! *

Simply answer the following questions and send us an email with your request.

We look forward to providing you with a test opportunity that showcases the exceptional benefits our product offers.



Mineral4All
THE PREMIUM MINERAL COMPLEX

- **YOUR FULL NAME**
- **FARM NAME**
- **FARM LOCATION**
- **FARM SIZE**
- **LIST ALL CROPS YOU GROW**
- **WHAT CROP DO YOU WANT TO TRY THE PRODUCT ON**

- **CONTACT EMAIL**
- **CONTACT PHONE NUMBER**
- **CONTACT PERSON**

*Disclaimer: Please note that only one test per farm is allowed. If you are a dealer interested in trying our product with your valued customers, we kindly request you to contact us for further discussions regarding available options.

UNDERSTAND YOUR NUTRIENTS

PLANTS NEED A SPECIFIC SET OF 14 ESSENTIAL ELEMENTS TO GROW AND SURVIVE. THESE ELEMENTS ARE VITAL FOR THEIR OVERALL DEVELOPMENT AND WITHOUT THEM, PLANTS SIMPLY CAN'T THRIVE.

While the soil naturally contains these nutrients, the demand for nutrients in agriculture and gardening often exceeds the soil's natural supply. To address this, fertilizers and soil conditioners must be applied to ensure an adequate nutrient balance in the soil. Contrary to the misconception that only macronutrients are necessary, it is crucial to provide all essential elements, including microelements.

Each leaf, flower, or fruit harvested from plants depletes the soil's essential elements to varying degrees. Neglecting to replenish these nutrients leads to soil erosion, rendering it sterile and unsuitable for cultivation or gardening. Micronutrient deficiencies can severely impact plant development and even cause plant death, regardless of sufficient macronutrient availability.

Moreover, excessive fertilizer usage does not always result in higher production. For example, an excess of nitrogen can make plants more susceptible to pests and diseases, ultimately reducing yield.

The essential elements consist of 14 Nutrients (besides carbon, hydrogen, and oxygen) and are categorized as follows based on plant consumption levels:

MACRONUTRIENTS

NITROGEN
POTASSIUM
PHOSPHORUS

SECONDARY NUTRIENTS

CALCIUM
MAGNESIUM
SULFUR

MICRONUTRIENTS

IRON
BORON
MANGANESE
ZINC
COPPER
MOLYBDENUM



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ESSENTIAL ELEMENTS FOR PLANT DEVELOPMENT

PLANTS DEPEND ON ESSENTIAL NUTRIENTS OBTAINED FROM THE SOIL FOR THEIR GROWTH. THESE NUTRIENTS ARE CRUCIAL FOR PROPER PLANT DEVELOPMENT. INADEQUATE LEVELS OF THESE ELEMENTS CAN CAUSE POOR GROWTH, AND THEIR ABSENCE CAN RESULT IN PLANT DEATH.

UNDERSTANDING AND PROVIDING A BALANCED SUPPLY OF THESE ELEMENTS IS CRUCIAL FOR MAXIMIZING PLANT POTENTIAL AND ENSURING HEALTHY, THRIVING VEGETATION.

NITROGEN

- Key role in promoting vegetative development.
- Stimulates stem growth and foliage expansion.
- Contributes to fruit and grain formation.
- Deficiency symptoms include chlorosis in lower leaves, overall leaf yellowing, and premature leaf drop.

PHOSPHORUS

- Participates in photosynthesis.
- Promotes root development, flowering, and seed germination.
- Essential for plant metabolism and energy transport.
- Crucial component of DNA and RNA, influencing genetic inheritance.
- Deficiency leads to impaired photosynthesis, reduced cellulose and starch synthesis, and protein production decline.

POTASSIUM

- Enhances fruit flavor, size, quantity, and quality.
- Facilitates stomatal opening and closing and osmotic regulation.
- Plays a vital role in carbohydrate and protein metabolism.
- Deficiency manifests as stunted growth, weak stems, short internodes, and less flavorful fruits.

CALCIUM

- Essential for cell wall structure and strength.
- Promotes root formation and nutrient absorption.
- Protects against fungal attacks on the cell wall.
- Particularly beneficial when presented as Calcium Carbonate (CaCO_3).
- Deficiency inhibits plant development, affects roots and new leaves, leading to malformations.

MAGNESIUM

- Crucial for chlorophyll formation and function.
- Promotes protein synthesis and aids in phosphorus metabolism.
- Beneficial in the form of magnesium carbonate (MgCO_3).
- Deficiency causes chlorosis, reduction in leaf size, and poor sprout growth.

SULFUR

- Essential for protein and vitamin synthesis in plants.
- Component of various enzymes.
- Offers protection against different types of mites.
- Deficiency hinders protein synthesis, reduces stem height, and results in poor-quality flowers and premature wilting.



MICRONUTRIENTS FOR OPTIMAL PLANT HEALTH

PLANT NUTRITION IS VITAL FOR HEALTHY GROWTH, AND IT'S ESSENTIAL TO RECOGNIZE THE IMPORTANCE OF MICRONUTRIENTS ALONGSIDE MACRONUTRIENTS AND SECONDARY ELEMENTS.

ALTHOUGH SOME MICRONUTRIENTS MAY EXIST IN SOIL, IT'S IMPORTANT TO UNDERSTAND THAT PLANTS EXTRACT THESE NUTRIENTS FROM THE SOIL. WITHOUT REPLENISHMENT, SOILS BECOME DEPLETED AND INFERTILE. THEREFORE, FERTILIZATION IS NECESSARY TO PROVIDE THESE ESSENTIAL MICRONUTRIENTS.

IRON

- Promotes the development of chloroplasts, chlorophyll, and ferredoxin.
- Plays a crucial role in photosynthesis and energy transport.
- Essential for root growth and development.
- Deficiency leads to slowed growth, significantly reduced flowering, and interveinal chlorosis.

ZINK

- Regulates plant growth and promotes stem and root development.
- Contributes to auxin production.
- Helps plants withstand extreme heat.
- Deficiency results in smaller, yellowish young leaves, delayed stem elongation, and weakened membrane lipids.

COPPER

- Promotes chlorophyll synthesis and vitamin formation in plants.
- Supports photosynthesis and protects against fungi and harmful microorganisms.
- Deficiency causes premature wilting, water transport difficulties, and reduced photosynthesis and carbohydrate levels.

MANGANESE

- Enhances the supply of carbohydrates and sugars to fruits, promoting their development and maturity.
- Key element for chlorophyll generation and photosynthesis.
- Facilitates the availability of calcium and phosphorus.
- Acts as a structural component of ribosomes.
- Deficiency manifests in underdeveloped leaves, poor fruit ripening, and other symptoms depending on the crop.

BORON

- Plays a vital role in pollination and sugar metabolism during reproductive development.
- Promotes flowering and fruit set.
- Synergizes with calcium.
- Deficiency inhibits root elongation, DNA synthesis, and leads to interveinal chlorosis and flower drop.

MOLYBDENUM

- Facilitates nitrogen metabolism in plants.
- Essential for enzymes involved in nitrogen movement.
- Deficiency disrupts the nitrogen cycle, leading to various crop-specific problems.

BENEFICIAL ELEMENTS FOR ENHANCED PLANT PERFORMANCE

IN ADDITION TO ESSENTIAL ELEMENTS, THERE ARE ELEMENTS THAT PLANTS CAN ABSORB THROUGH THEIR ROOTS, ALTHOUGH THEY ARE NOT CONSIDERED ESSENTIAL FOR THEIR COMPLETE DEVELOPMENT. HOWEVER, THESE ELEMENTS PLAY A BENEFICIAL ROLE, ENHANCING PLANT BEHAVIOR IN VARIOUS ASPECTS SUCH AS PRODUCTIVITY, FRUIT QUALITY, AND RESISTANCE TO PESTS AND DISEASES.

SILICON (Si)

Silicon stands out as the ultimate beneficial element, abundant in the soil. However, most of it is not readily assimilated by plants. Therefore, providing high-quality assimilable silicon is recommended for achieving optimal harvests.

The application of high-quality assimilable silicon offers several key benefits, including:

- Reduces transpiration and water loss by improving water regulation during drought conditions.
- Helps control abiotic and biotic stress factors. Increases resistance to salinity and frost.
- Shields plants from harmful ultraviolet radiation, protecting fruits against sunburn.
- Enhances plant health by boosting resistance to pests and diseases through physical and chemical mechanisms.
- Reinforces the mechanical strength of cell walls, hardening plant tissues and improving resistance to pests and diseases.
- Strengthens the plant's self-defense system by activating the synthesis of enzymes and phytoalexins.
- Acts as a natural insecticide, physically and mechanically protecting crops.

SODIUM

Sodium plays a beneficial role in supporting plant physiology, particularly in the following areas:

- Facilitates the opening and closing of stomata, aiding in water regulation.
- Assists in the metabolism and synthesis of chlorophyll, especially in C4 plants.

ALUMINUM

Aluminum, when present in appropriate quantities, offers significant benefits, such as:

- Increases antioxidant activity in plants.
- Enhances potassium absorption.
- Reduces iron toxicity.
- Boosts resistance to herbivores.



OUR PREMIUM MINERAL COMPLEX COMBINES SYNERGISTIC NATURAL MINERALS, AND DELIVERS ESSENTIAL MACRO AND MICRONUTRIENTS IN A HIGHLY ASSIMILABLE FORM.

UNLOCK THE FULL POTENTIAL OF YOUR CROPS WITH MINERAL4ALL AND WITNESS VIGOROUS GROWTH, ABUNDANT YIELDS, AND OVERALL PLANT VITALITY.



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“As the CEO of Diatomega, i am proud to lead a company driven by a simple yet profound mission: “nourishing the earth to nourish humanity.” We are dedicated to revolutionizing the agricultural industry through our commitment to delivering innovative premium mineral solutions. Our products address specific challenges in agriculture and provide effective solutions.”

CARLOS COLLIGNON GOMEZ, CEO

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