

CONTACTS



Website

www.mugavero.it

Email

info@mugavero.it

Phone

+39 091 8533200

Offices

Corso Umberto e Margherita 1/B Termini Imerese (PA) 90018 - Italy

Production plant

Zona Industriale Termini Imerese (PA) 90018 - Italy



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About us

Mugavero is an Italian Company, specialised in Plant Nutrition since 1959.

Its strong tradition begins with Sicilian Agriculture from former times, then playing a supporting role in its entire later evolution. Born in the heart of the Mediterranean region, Mugavero is globally recognised as an example of "Made in Italy", in terms of Research and Development, innovative solutions and its high-tech portfolio.

With a daily production capacity of 250 MT of water-soluble products, 1200 MT of granular products and 30,000 L of liquids and biostimulants, Mugavero is currently one of the

main fertiliser distribution hubs in the world.

Thanks to the valuable technical-scientific know-how of all members in the organisation, and the sincere commitment of each of them, the Company offers currently a complete and specialised range of products.

1959

1985

2000

Company foundation.

Construction of the first fertiliser storage and packaging plant in the industrial area of Termini Imerese.

Building of a mixing and synthesis production line for DMPP (3,4-Dimethylpyrazole Phosphate), dedicated to the manufacturing of the MIDOTEC product range.

2008

Installation of a granulation equipment for the manufacturing of the nitrogen fertiliser with urease inhibitor NBPT N (n-butyl) Thiophosphoric Triamide", from which the AUREA product range is born. 2004

Building of the water-soluble fertilisers manufacturing plant, one of the largest in Europe.

The Company goes global.

2011

Construction of the photovoltaic and dust suppression system.

2013

Birth of the first organic products, both pelleted and liquid.

2019

Implementation of the Biostimulants line and development of microorganism innovative products.

2014

Installation of the Gel manufacturing line.

TODAY





Research

Being amongst the first Companies in Europe in terms of formulation, manufacturing and distribution of granular and water-soluble Slow-release fertilisers, Mugavero continues to invest in modern and exclusive technologies, turning also into a manufacturer of particular liquid formulations.

With the foundation of a Basic Research Company and embracing partnerships with Research Institutes, Mugavero remains constantly updated on scientific innovations and dedicated to the development of innovative products.

Mugavero product development is possible thanks to the study, the research, the state-of-the-art laboratories and the know-how in genetics, microbiology, chemistry and agronomy.



TAYLOR-MADE CHEMISTRY

Thanks to its technologies and systems, Mugavero develops products with specific features that satisfy any requirement.

Mugavero offers complete solutions for plantations, from basic fertilisation to special liquids for foliar application.



MICROORGANISMS

Biofertilisers based on Microorganisms (**BBM**) are born. The different combinations of selected Microorganisms give rise to new bio-preparations to better meet the nutritional needs of crops with beneficial effects on plant health and growth.



PHYTOTRON

The phytotron, attached to the laboratories, enables the evaluation of formulations in a controlled environment, of plant essences in response to abiotic changes such as water, salt and heat stress.



M.A.S. TECHNOLOGY

Microrganismi Agricoltura Sostenibile

Mugavero, is strongly committed to the valorisation, production and application of microbial resources.

Dedication to scientific research and the development of natural technologies guarantees innovative biotechnological solutions for the agricultural sector.

M.A.S. Technology (Sustainable Agriculture Microorganisms) involves the application of beneficial microorganisms, developed by Mugavero's in-house research, to granular and liquid formulations.

The results of applying M.A.S. Technology, as part of fertilisation plans, are consistent across different climate zones and soil types, and help growers produce more.

Bio-innovative formulations all have biosafety level 1. Once applied to the soil, they colonise plant roots and trigger multiple hydrolytic and oxidative biochemical reactions during plantmicroorganism interaction.

A symbiotic ('holobiont') association is established that perpetuates colonies throughout the season and maintains a stable balance of microbes at the plant root interface: the micro-organism persists as a member of the plant's hologenome, giving it positive phenotypic effects.







Green

Environmental Protection, Food Security and the consciousness that "we are what we eat" are Global fundamental priorities.

Mugavero, attentive to all these aspects, expresses a strong tendency for the development of Green and Eco-friendly solutions, aiming for a maximum safety of the environment, farmworkers and end users.

From a holistic standpoint, some examples can be the accurate selection of raw materials free from undesired residue, the use of photovoltaic equipment, and the dust suppression and water recycling systems in the manufacturing process.

Our Quality Management System is

Energy

All the power required to feed the manufacturing plant is provided by the **photovoltaic system**, on site, which has a total peak power of 176,170 Wp.

Photovoltaic technology and sustainability go hand in hand, therefore Mugavero products are manufactured using clean solar energy.

Agriculture

The sustainability in the field begins with fertilisers that use the slow-release technology, in accordance with the European Union Regulations for the **reduction of nitrogen and carbon dioxide emissions** into the atmosphere.

The design and manufacturing of special **Zero Residual** liquid formulations are the demonstration of a more careful and attentive approach to an increasingly demanding agriculture.

Ecology

The liquid production line is completed with the use of containers, in different formats, made of **recycled material** obtained by means of a special registered trademark technology; the resin contained therein comes from an accurate selection of plastic waste, obtained through an innovative transformation system, respecting the Nature and the Environment.





Export

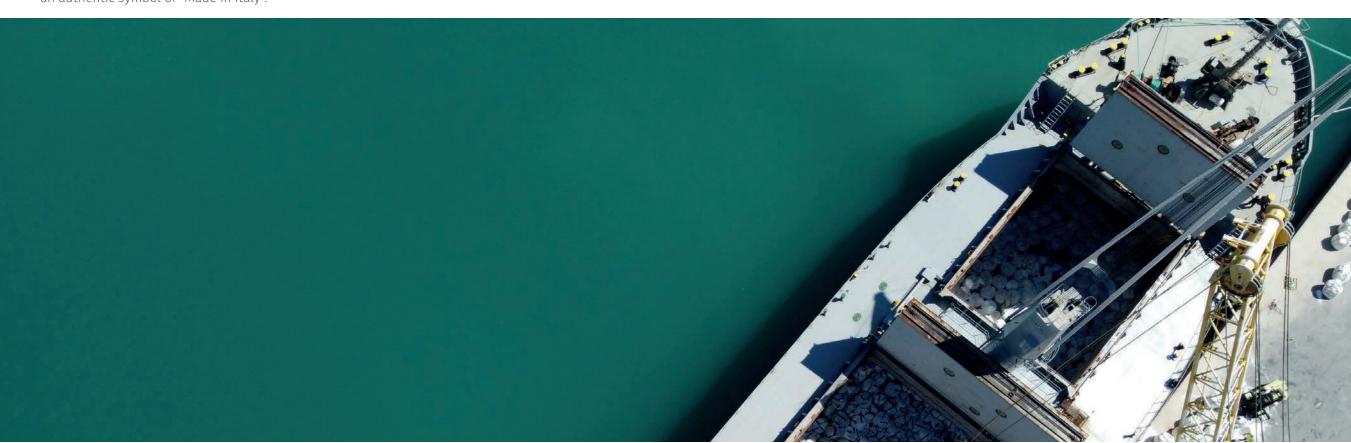
The Mugavero Company is internationally recognised for the undisputed reliability and quality of its products, exporting to more than 50 Countries worldwide: from Europe to Central America and from the Middle East to Southeast Asia.

Leading the path of an ever evolving agriculture, Mugavero currently offers a wide range of products that improves the productive yields of several kinds of cultivations, from the tropical ones to those with high level requirements in cold environments.

The ability to provide an extensive product portfolio and a 360 degrees service makes Mugavero one of the most important international players in the plant nutrition segment.

The Mugavero brand is nowadays known as an authentic symbol of "Made in Italy".





Biostimulants

The BIOSTIMULANTS category includes innovative products, which contain ORGANIC SUBSTANCES and/or MICROORGANISMS, specially designed to support the plant development throughout the plant life cycle and to improve its qualitative and quantitative yields.

Applied directly on the leaves or by fertigation, the biostimulants interact punctually and naturally on the main

physiological processes of the plant: some promote the creation of new roots by improving the radical absorption of nutrients, others act on the epigeal tissues of the plant, enhancing the division and cell multiplication, and influencing the different phenological stages of the plant.















ASWELL





ALGASTAR®

Plant

- Stimulates vegetative growth in early phases
- Fosters cell multiplication

Fruit

• Boosts fruit enlargement



application



fertigation



Algastar is an Ascophyllum Nodosum-based bio-stimulant, totally natural, obtained from an exclusive extraction process under low temperatures.

Algastar is rich in organic compounds with beneficial properties, including polysaccharides, organic and amino acids. The phytohormones contained therein increase the multiplication and the enlargement of the cells, and improve plant resistance to biotic and abiotic stress.

reduces the free radicals activity and boosts the enzyme action to protect against oxidative stress.

ALGASTAR



1 L

Algastar is especially indicated in the early stages of seedling, when the plant growth needs to be stimulated, and in the fruit enlargement stage, to improve cell multiplication.

It can be used by foliar application or fertigation, being easily absorbed in both cases.

Algastar is approved for organic farming.

It improves the nutritional status of the plant,

Composition	%
total Nitrogen (N)	1
of which Organic Nitrogen (N)	1
total Organic Carbon (C)	10
Organic substance with nominal molecular weight < 50kDa	30

Dosage and method of use	ml/hl	I/ha
cultivation	foliar	fertigation
Cereal	200-300	5-10
Flowering and Ornamental	200-300	5-10
Forage	200-300	5-10
Orchards	200-300	5-10
Industrial crops	200-300	5-10
Horticultural plants	200-300	5-10

ASWELL®

Soil

• Promotes the development of microorganisms

- Supports the plant throughout its life cycle
- Helps the translocation of macro and microelements

• Increases fruit production



foliar application

approved for

organic farming



fertigation



jerry can

bottle

5/20 L

1 L

Aswell is a high quality nutritional balancer, with free amino acids of low-molecular-weight obtained from the enzymatic hydrolysis of animal epithelium.

Thanks to the great ability to penetrate the cell cytoplasm, Aswell activates key metabolic systems within the plant, supporting the development of the plant in its phenological stages and favouring the translocation of macro and microelements. It is recommended throughout the plant life cycle, whenever it is necessary to induce vigour to the plant, to better overcome biotic and abiotic stress and improve nutrients assimilation.

Aswell can be applied either directly to the leaves or through fertigation, as it can be easily absorbed. The use of Aswell is approved for organic farming.

Composition	%	Dosage and method of use	ml/hl	I/ha
total Nitrogen (N)	8	cultivation	foliar	fertigation
of which Organic Nitrogen (N)	7,7	Cereal	200-300	20-30
of which Ammonia Nitrogen (N)	0,3	Flowering and Ornamental	100-200	10-20
total Organic Carbon (C)	20	Forage	100-200	10-20
total Amino acids	48,1	Orchards	200-300	20-30
free Amino acids	10	Industrial crops	100-200	10-20
		Horticultural plants	100-200	10-20

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B&VI



BATTIRIA[®]

with M.A.S. technology

Soil

- Promotes microbial activity
- Increases nutrient availability

Plant

Improves water use efficiency

Fruit

• Improves shelf-life



foliar application



fertigation





Battiria Fluid is an innovative microbialbased biostimulant, which includes spores of four strains of the genus *Bacillus* meticulously selected and particularly active under all conditions. Battiria Fluid enables atmospheric nitrogen fixation, mobilization of phosphorus and potassium in the soil, improving the availability to crops of essential nutrients.

siderophores.





bottle

jerry can

1 L

5/20 L

Therefore, Battiria Fluid optimizes yield potential by improving nutrient uptake, restores beneficial microorganisms in the rhizosphere, and enriches and improves soil structure for increased root mass and valuable plant vigor.

Battiria Fluid, applied by foliar application and fertigation, promotes the plant's natural immune defences, thereby fortifying and invigorating plant crops, enabling greater tolerance to biotic and abiotic stresses.

Battiria Fluid is approved for organic farming.

B&VI®

Plant

Improves and unifies productions

Fruit

- It strengthens the peduncle
- Promotes regularity of gauge



foliar application



fertigation



jerry can

bottle

5/20 L



B&VI is a liquid organic vegetative developmentpromoting formulation with bioactive molecules produced by bacteria and natural plant extracts.

It contains amino acids, proteins, carbohydrates and vitamins, nitrogen and is rich in natural phytohormones, in particular of cytokinins.

It accelerates flower organ formation and consequently fruit set, improves fruit size and health, increases photosynthetic and metabolic efficiency of plants.

Intervene at vegetative growth at the appearance of flower organs and petal drop before possible natural fruit drop.

Application with B&VI requires no preliminary time to prepare the final solution.

B&VI is approved for organic farming.

The synergistic and complementary action of each strain, contained in Battiria Fluid, ensures the promotion of plant growth through the production of phytohormones, secondary metabolites and

Composition

Rhizosphere bacteria ≥ 2*10° CFU/ml Bacillus spp. Mycorrhizae 0.001% w/P F.mosseae + R.intraradices

Doses and methods of use	ml/h	1/ha
Crops	foliar	fertigation
Cereal crops	100-200	-
Floricultural and ornamental	100-200	2-5
Forages	100-200	-
Orchards	100-200	2-5
Industrial	100-200	2-5
Horticultural	100-200	2-5

Composition	%
Total nitrogen (N)	0.1
Organic nitrogen (N)	0.1
Organic carbon (C)	0.3
Molybdenum (Mo) soluble in water	0.4
Zinc (Zn) soluble in water	0.35
Mannitol	1.0 g/L

Decree and souther decree		* /*
Doses and methods of use	ml/hl	1/ha
Crops	foliar	fertigation
Cereal crops	250-400	-
Floricultural and ornamental	250-400	5-10
Forages	250-400	-
Orchards	300-500	5-10
Industrial	250-400	5-10
Horticultural	300-500	5-10











GRAN RISERVA



CANTA®

Soil

• Promotes microbial activity

Plant

- Boosts rooting development
- Promotes tissue growth

Fruit

• Increases dry matter



foliar application



fertigation

2

10

30



Composition

22

total Organic Nitrogen (N)

molecular weight < 50kDa

Organic substance with nominal

total Organic Carbon (C)

zero residue

Canta is an organic biostimulant which contains bioactive molecules produced by the rhizosphere's Streptomycetes spp.

. The organic compound consists of Ecklonia maxima, yeast extracts, proteins and amino acids.

Canta ensures a starter and extended effect on the phenological stages of the plant, and strengthens the root and vascular systems, even in conditions of biotic and abiotic stress, granting an optimal hormonal balance.

Applied directly onto the leaves, it promotes cell division in plant tissues, fruit swelling and increases the dry matter content.

CANTA



bottle

jerry can

Applied by fertigation, it stimulates the microbial activity, by making available to the plant nutrients that are not quite mobile when in the soil, such as phosphorus and iron.

Its application does not require any previous preparation and has zero residue.

Dosage and method of use ml/hl 1/ha cultivation foliar fertigation 200-400 10-20 Flowering and Ornamental 200-400 10-20 Forage 200-400 10-20 Orchards 200-400 10-20 Industrial crops 200-400

GRAN RISERVA®

Plant

- Promotes the accumulation of reserve substances
- Promotes and accelerates natural leaf fall
- Boosts the structure and size of the buds

Flower

• Improves differentiation and structure

Fruit

• Increases fruit setting



1L

5/20 L

foliar application



zero residue



jerry can

5/20 L

23

Gran Riserva is ideal for promoting the accumulation of reserve substances in deciduous and evergreens. Applied foliar, post-harvest it induces optimal bud dormancy.

The presence of lignin sulphonates gives the product strong surface-active and sequestering properties; the trace elements present, zinc and manganese, ensure greater resistance to biotic and abiotic agents.

Application at the maximum dose is particularly suitable in autumns with high temperature values and nutritional imbalances in the plant, as evidenced by late ripening.

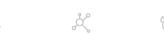
The application at the highest dose is particularly suitable in autumns with high temperature values and nutritional imbalances in the plant evidenced by a delay in the ripening of the wood: it increases the dry matter content in the wood and induces an enlargement of the perulae in the buds.

Applied at the lowest dose even at vegetative restart, it exerts a biostimulating action on all

The application of Gran Riserva is "zero residue".

Composition	%	Dosage and method of use		1/ha
total Nitrogen (N)	5	cultivation	days (post-harvest)	foliar
of which Urea Nitrogen (N)	5	Actinidia	60-30	10-20
Phosphorus Pentoxide (P₂O₅)	13	Stone fruit	150-45	10-20
Manganese (Mn) complexed with	0,3	Hazelnut tree	60-30	10-20
Lignin sulfonic acid		Pistachio	45-30	10-20
Zinc (Zn) complexed with	0,3	Tropicals	120-30	10-20
Lignin sulfonic acid		Grapevine	120-30	10-20

10-20 Horticultural plants 200-400 10-20



























5/20 L

KELPSTAR®

Plant

• Promotes new root formation

Flower

• Stimulates floral organs growth

Fruit

- Enhances fruit set and enlargement
- Increases dry matter



foliar application



fertigation

1

10

30



Kelpstar is a natural concentrated extract of *Ecklonia maxima*. The high quality of this alga is ensured by the cold extraction process used during its manufacturing, free from heating or chemical substances.

Kelpstar is rich in amino acids, auxin-like phytohormones, carbohydrates and vitamins, that provide benefits to the plant such as resistance to biotic and abiotic stress and the enhancement of the production potential.

Kelpstar promotes the formation of new roots and floral organs growth, and contributes to fruit enlargement while increasing the dry matter. It can be applied either directly to the leaves or by

KELPSTAR SL O I



fertigation, in all phenological stages of the plant.

The use of Kelpstar is approved for organic farming.

Composition

Organic Nitrogen (**N**)
Organic Carbon (**C**)
Organic substance with nominal
molecular weight < 50kDa

Dosage and method of use	ml/hl	1/ha
cultivation	foliar	fertigation
Cereal	200-300	5-10
Flowering and Ornamental	300-400	5-10
Forage	200-300	5-10
Orchards	300-400	5-10
Industrial crops	300-400	5-10
Horticultural plants	300-400	5-10

KELPSTAR[®] BORO

Flower

- Promotes the pollen formation
- Enhances fecundation
- Attenuates fruit drop

Fruit

Increases fruit set



foliar application



approved for organic farming

Kelpstar Boro is a natural concentrated extract of *Ecklonia maxima*, enriched with boron, especially created to stimulate flowering and fruit set.

Ecklonia maxima undergoes a specific mechanical cold extraction process - without heating or chemical processing - resulting in a concentrated liquid extract with an unaltered natural phytohormone.

Boron is the predominant element in the processes that determine the success of the fruit set. It particularly increases the flower induction, stimulates the germination of the pollen tube and increases the receptivity of the stigma.

KELPSTAR BORO SL O I

bottle 1L



terms.

jerry can

The foliar application of Kelpstar Boro during pre-flowering improves the fruit set and the final production, both in quantitative and qualitative

The use of Kelpstar Boro is approved for organic farming.

mposition	%	Dosage and method of use
reases the receptivity of the stigma.		
nulates the germination of the pollen tube ar	nd	

ml/hl Com Organic Nitrogen (N) cultivation foliar Organic Carbon (C) 10 Flowering and Ornamental 300-500 Forage Boron (B) 8 300-500 Molybdenum (Mo) 0.01 Orchards 300-500 Organic substance with nominal 30 Industrial crops 300-500 molecular weight < 50kDa Horticultural plants 300-500

















MOVITA® line

Plant

- Uniforms dormancy breaking
- Reduces dormant buds

Flower

• Normalises flowering

Fruit

• Regulates fruit set



foliar application



zero residue

Movita and Movita Twin are metabolism activators that act as dormancy breakers, promoting a uniform budding phase in deciduous fruit species.

Thanks to their formula, when applied directly to the leaves, these products are readily absorbed within the epigeal storage organs of the plant and, by reactivating the metabolic and enzymatic processes, have a decisive impact on the differentiation of mixed and/or flower buds.

Movita and Movita Twin regulate the development of shoots along the fruiting branch and contribute to increase plant production: from budding to harvest, plants show a greater vigour that is visible also in their final product.

For a better result, the treatment may be carried out close to the swollen bud phase, as the final solution is non-toxic for the plant. Movita Twin must be added to Movita respecting doses of use and the final solution volume per surface unit, as indicated.

Movita

jerry can

Movita Twin

jerry can

The application of Movita and Movita Twin has zero residue.

20 L

5 L

MOVITA®





Dosage and method of use	1/ha
cultivation	foliar
Hardy kiwi (<i>Actinidia</i>)	80
Apricot tree	80
Cherry tree	100-120
Peach tree	80
Pistachio tree	100
Grapevine	100

I/ha	Period
final solution volume	days from budding
	30
	25
500-1000	30
	25
	25
	30

MOVITA® TWIN

Composition

% total Nitrogen (N) 18 of which Urea Nitrogen (N)18 water-soluble Phosphorus Pentoxide (P₂O₅) 46



Dosage and method of use	I/ha
cultivation	foliar
Hardy kiwi (Actinidia)	20
Apricot tree	20
Cherry tree	25-30
Peach tree	20
Pistachio tree	25
Grapevine	25



Period days from budding 30 25 30 25 25 30

27













NIGER'I

(a) 11



MATURAU[®]

Fruit

- Accelerates and regulates ripening
- Completes and uniforms the epicarp colour
- Increases the sugar/acid ratio
- Increases shelf-life



the leaves.

Composition

total Nitrogen (N)

Organic Carbon (C)

Organic compound

of which Organic Nitrogen (N)

water-soluble Potassium Oxide (K,O)



Maturau is an organic biostimulant recommended for the completion of the ripening and colouring processes of the fruit, to be applied directly onto

Maturau contains potassium complexed with organic molecules and natural extracts of jasmonic acid. Maturau acts mainly on fruit colouration by promoting the breakdown of chlorophyll and the synthesis and accumulation of anthocyanins, helping to strengthen the cell walls of plant tissues.

Maturau improves colour uniformity and the sugar/ acid ratio, giving the fruit better flavour and shelf life.

MATURAU



bottle

4

8

19

40

jerry can

Maturau must be applied when the fruit has reached 60% of the colour change of the epicarp, and on a plant that is properly hydrated and with no symptoms of water stress.

The specific formulation, characterised by a highly stickiness property, allows the product to be easily assimilated and totally metabolised, leaving no residue.

1 L

5/20 L

Dosage and method of use ml/hl cultivation foliar Flowering and Ornamental 500-1000 Orchards 500-1000 Horticultural plants 500-1000

NIGER®

Plant

• Highly absorbable

Fruit

- Promotes fruit growing
- Increases dry matter



approved for

organic farming



fertigation



jerry can

bottle

5/20 L

1 L

29

Niger L is a physio activator, with a high concentration of fulvic acids extracted from Leonardite, characterised by an acidic pH that improves its absorption through the plant tissues.

Its formula is particularly soluble and contains a great quantity of humified organic carbon, readily available.

Niger L application directly to the leaf is recommended throughout the plant cycle, to promote cell multiplication and biomass development. Applied during the post-fruit set, it stimulates fruit growing and increases dry matter. Its high level of fulvic acids and absorption properties make for an efficient product, even if applied at low rates.

Niger L is approved for organic farming.

Composition	%	Dosage and method of use	ml/hl	1/ha
Organic Nitrogen (N)	0,5	cultivation	foliar	fertigation
Organic Carbon (C) dry basis	30	Flowering and Ornamental	100-200	3-10
Extractable Organic Carbon (C)	60	Orchards	200-300	3-10
on Total Organic Carbon		Industrial crops	100-200	3-10
Organic humified Carbon (C)	60	Horticultural plants	100-200	3-10

28

on extractable Organic Carbon

















PETALOSO®

Plant

• Reduces nitrate concentration

Flower

- Improves the structure
- Increases quantity and fertility of pollen

Fruit

Enhances fruit set



Composition

water-soluble Boron (B)

water-soluble Molybdenum (Mo)

application



fertigation



Petaloso is a liquid solution, indicated for plantations that mostly require boron and molybdenum. Its foliar application during flowering ensures a prompt response from the plant.

Boron improves the flower structure and promotes pollen formation: plants treated with Petaloso present flowers that are more attractive for pollinating insects and less subject to drop. The result is a better fruit set and a high quality production.

Molybdenum, an essential element in the processes of assimilation and use of nitrogen, helps reduce the nitrate concentration in plant tissues.

PETALOSO



1L

Petaloso is particularly recommended in periods of thermal stress during the plant cycle, when it is necessary to support flowering.

Petaloso is approved for organic farming.

8

Dosage and method of use	ml/hl	1/ha
cultivation	foliar	fertigation
Flowering and Ornamental	300-500	2,5-5
Forage	200-400	1,5-2
Orchards	200-400	2,5-5
Industrial crops	200-400	1,5-2
Horticultural plants	300-500	2,5-5

TYSON®

Soil

- Increases nutrients availability
- Promotes microbial activity

Plant

- Enhances photosynthesis
- Stimulates plant metabolism
- Improves root development



application

approved for

organic farming



fertigation



cycle of plants.

1 L

5/20 L

bottle

TYSON



If applied directly to the leaves, Tyson promotes the plant development and increases the resistance to biotic and abiotic agents; through fertigation, it activates the bacterial flora in the soil. Its application is recommended throughout the life

Tyson is approved for organic farming.

Tyson is a biostimulant coming out of vegetal sources, obtained from the enzymatic hydrolysis of the biomass of Fabaceae.

This particular extraction process does not denature the product elements, maintaining its high concentration of active compounds and keeping unchanged all the characteristics of the vegetal extract.

Tyson can be easily absorbed, as it is rich in shortchain nitrogen proteins. The free L-amino acids improve and catalyse the photosynthesis in plants, resulting in a greater transfer of metabolites to fruits.

Composition

Organic Nitrogen (N) Organic Carbon (C)

Dosage and me
cultivation
Cereal
Flowering and Or
Forage

% 5

20

Dosage and method of use	ml/hl	I/ha
cultivation	foliar	fertigatio
Cereal	300-400	5-10
Flowering and Ornamental	300-400	5-10
Forage	300-400	5-10
Orchards	300-400	5-10
Industrial crops	300-400	5-10
Horticultural plants	300-400	5-10

















TONICAL® line

Plant

• Prevents the occurrence of calcium deficiency symptoms

Fruit

- Improves compactness
- Strengthens cell walls
- Increases shelf-life

The Tonical line consists of calcium-activated biostimulant nutrients with amino acids and peptides from extracted from brown seaweed Ecklonia maxima.

The special organic formulation carries calcium into the cell membrane, increasing the speed and effectiveness of assimilation. Calcium plays a key role in thickening and strengthening cell walls and improving fruit firmness.

Application with Tonical and Biotonical from fruit set to just before harvest improves the texture, organoleptic characteristics and shelf-life of the final product; Tonical and Biotonical prevent calcium deficiency issues such as apical rot, fruit splitting and marginal leaf necrosis.

Tonical and Biotonical can be administered by foliar application or by fertigation; the results of application are readily appreciable.

The use of Biotonical is authorised in organic farming.

Tonical



foliar application



fertigation

Biotonical



foliar application



fertigation



approved for organic farming



bottle

jerry can

5/20 L

1 L

TONICAL®

Composition Total nitrogen (N) 9 Of which (N) organic soluble in water Total water-soluble calcium (CaO) 8 Of which (CaO) calcium complexed 6 Total amino acids 25 Free amino acids 15

Doses and methods of use	ml/hl	I/ha
Crops	foliar	fertigation
Cereal crops	300-400	-
Floricultural and Ornamental	300-400	5-10
Forages	300-400	-
Orchards	400-500	5-10
Industrial	300-400	5-10
Horticultural	300-400	5-10



BIOTONICAL®

Composition Nitrogen total organic (N) 6 Carbon total organic (C) 18 Calcium oxide (CaO) 8

Doses and methods of use	ml/hl	I/ha
Crops	foliar	fertigation
Cereal crops	300-400	-
Floricultural and Ornamental	300-400	5-10
Forages	300-400	-
Orchards	300-400	5-10
Industrial	300-400	5-10
Horticultural	300-400	5-10





Soil

• Increases nutrients availability

Plant

- Regulates vigour
- Increases radical assimilation

Fruit

Promotes growing and ripening



foliar application



fertigation





bottle



jerry can

5/20 L

1 L

Upper Grow is an innovative biostimulant, rich in nitrogen and potassium, that can be applied either directly onto the leaves or onto the soil, to be absorbed in the roots.

The foliar application enables you to control the opening and closing mechanism of the stomata. Upper Grow, applied during fruit growing and ripening phases, has an effect on the quality of the final product, providing fruits with greater flavour and shelf life, and increasing their colour and sugar content.

Upper Grow, applied to the soil and absorbed in the roots, improves the physicochemical properties of the soil, stimulating the biological activity of soil microorganisms and increasing the cation exchangeability. The organic chelating formulation of potassium contributes to lower the root water potential, improving the absorption of water and nutrients within the roots.

The application of Upper Grow prevents the onset of physiopathies from the deficiency and/or low efficiency of the available potassium.

Composition

total Nitrogen (N)
of which Organic Nitrogen (N)
water-soluble Potassium Oxide (K ₂ O)
Organic Carbon (C)
Organic matter

%	
4	
4	
10	
19	
40	

Dosage and method of use	ml/hl	1/ha
cultivation	foliar	fertigation
Flowering and Ornamental	300-400	5-10
Forage	300-400	5-10
Orchards	400-500	5-10
Industrial crops	300-400	5-10
Horticultural plants	300-400	5-10



Resistence inducers

The Resistance Inducers category contains ELICITORS or PLANT DEFENCE ACTIVATORS; they stimulate the natural production of metabolites involved in the defensive response to biotic (pathogens and parasites) or abiotic (climatic, physical and chemical agents) stress, giving the plant greater resistance and vitality.

The innovative formulations of all resistance inducers provide a valid support, as an alternative or completion, to traditional technical means, in the context of a more and more sustainable farming integrated protection.



















BOS[®]

Plant

- Increases self-defence against cryptogams and insects
- Ensures a healthier growth

Fruit

• For a glossy epicarp



foliar application



Composition

suspended in water

Vegetable oil

zero residue

Bos is a formulation of vegetal origin containing polyunsaturated fatty acids that activate the defence mechanisms of the plant.

Bos acts in the interactions between plant and harmful organisms, representing a valid solution to reduce the resistance of pathogens towards the synthesis molecules.

Plants treated with Bos appear healthier and their fruits present a glossy epicarp.

In addition to being a non-residual product, included in integrated pest management programs, it enables the reduction of active ingredients, in compliance with an increasingly sustainable

needed.

Forage Orchards

Dosage and method of use cultivation

BOS

bottle

jerry can

agriculture. Bos is not caustic to plants even at high

doses and can be used throughout the year, as

Flowering and Ornamental 500-1000 500-1000 500-1000 Industrial crops 500-1000 Horticultural plants 500-1000

FOSFIPOTASS®

Plant

- Increases self-defence
- Disinfects the root system
- Strengthens tissues



1 L

5/20 L

ml/hl

foliar

application



fertigation



jerry can

5/20 L

39

Fosfipotass is a liquid fertiliser containing high levels of pure phosphorus and potassium.

A good availability of phosphorus and potassium in plants ensures a prompter response of natural defence mechanisms against biotic and abiotic agents; Fosfipotass promotes the development of root biomass and stimulates the self-defence of plants by increasing the synthesis of phytoalexins.

The formulation is characterised by its high mobility within plants, being easily absorbed within plant tissues, suitable thus for foliar application or fertigation.

Composition

water-soluble Phosphorus Pentoxide (P₂O₅) water-soluble Potassium Oxide (K,O)

%	Dosage and method of use	ml/hl	1/ha
30	cultivation	foliar	fertigation
20	Cereal	200-300	5-10
	Flowering and Ornamental	200-300	5-10
	Forage	200-300	5-10
	Orchards	200-300	5-10
	Industrial crops	200-300	5-10
	Horticultural plants	200-300	5-10















1 L

5/20 L

HYPERPHOSE®

Plant

Increases productivity

Frui

- uniforms fruiting production
- Reduces the percentage of deformed fruit



foliar application



Lignin sulfonic acid

zero residue

Hyperphose has a tissue greening and disinfectant action, ensuring better resistance to biotic and abiotic agents, thanks to its zinc and manganese content. The application of Hyperphose is particularly indicated when the crop shows "energy deficit" and root assimilation is reduced due to unfavorable soil thermal values.





It can also be used to promote flower differentiation in horticultural species. Thanks to its specific formulation, Hyperphose does not create toxicity and can be used even in the presence of open flowers.

Hyperphose's application has zero residue.

LIRA

Plant

- Prevents copper deficiencies
- Stimulates natural self-defence



oliar



Lira is a copper-based resistance inductor with lignosulphonates: natural organic agents extracted from lignin, with strong humectant properties, that promote the absorption of copper within plant tissues. With their humectant effect, lignosulfonates prevent the crystallisation of the

microelement on the leaf surface.

Thanks to its organic formulation, Lira quickly penetrates into the plant tissues, increasing the copper absorption and improving its effectiveness. Copper is recognised as the most important microelement for autumn-winter cereals: Lira, applied in the pre-tillering phase, improves their yield and quality and moderates their susceptibility to pathogens.

%

5

4,2

Composition

water-soluble Copper (Cu) total chelated Copper (Cu) complexed with Lignin sulfonic acid Lira has a high resistance to leaching and allows, in compliance with current legislation, to effectively nourish plantations and reduce the copper doses per hectare. It is approved for organic farming.

bottle

jerry can

Mattherno	0111
LIRA	-
s. 0 ()	LIRA
United the last of	1. 0 1

Composition	%	Doses and methods of use
Total nitrogen (N)	6	Crops
Of which urea (N)	6	Floricultural and Ornamental
Phosphorus anhydride (P ₂ O ₅)	15	Horticultural
Magnesium oxide (MgO)	2	
Manganese (Mn)	0.3	
Zinc (Zn) complexed with	0.3	

Dosage and method of use	ml/hl	I/ha
cultivation	foliar	spray
Cereal	-	1,5-2
Flowering and Ornamental	300-400	-
Forage	-	2,5-3
Orchards	300-500	-
Industrial crops	300-500	-
Horticultural plants	300-500	-

ml/hl

100-200

100-200

foliar

















NATURAL ZEOLITE

Soil

- Improves the physical and chemical properties **Plant**
- Stimulates natural self-defence
- Reduces excessive external humidity on plant tissues



foliar application



Natural Zeolite is a mineral of volcanic origin with regular crystalline structure, good cation exchange capacity (CEC) and high microporosity. These features characterise the product with a high hygroscopic power, allowing it to hydrate and dehydrate reversibly and to absorb water molecules even at low concentrations, releasing them gradually as the temperature rises.

Natural Zeolite is an extremely versatile product: it can be used by foliar application (powder or suspension) to increase the plant resistance to biotic and abiotic stress; as a soil improver, to enhance the soil in terms of physical and chemical properties and permeability, and as a substrate,

Composition

Natural Zeolite	100 %
Zeolite composed of Clinoptilolite	
Cation exchange capacity (CEC)	200 cmol/kg
Granulometry	0,02 mm

ATTIRAL STORES



bucket

10 kg

mixed with other types of substrates, for container gardening.

Applied directly onto the leaves, it offers, in addition to controlling the temperature and transpiration of leaves and fruits, a repellent action against parasites and pathogens.

Natural Zeolite can be used up to the moment of harvest, leaving no residues and presenting no waiting period. It is approved for organic farming.

Dosage and method of use g/hl kg/ha cultivation suspension powder 200-300 5-10 Flowering and Ornamental 200-300 5-10 Forage 200-300 5-10 Orchards 200-300 5-10 Industrial crops 200-300 5-10 Horticultural plants 200-300 5-10

RAMEFLOR®

Plant

- Prevents copper deficiency
- Stimulates natural self-defence



foliar application



approved for organic farming

Rameflor is a liquid formulation containing copper oxychloride, boron and manganese. The liquid formulation avoids the issues related with the preparation of the final solution using soluble powders, guaranteeing greater safety for the operator and better distribution and stickiness.

As Rameflor presents a good stickiness, it is perfect for autumn and spring treatments, curing microelement deficiencies in particularly demanding cultivations; its application also makes plants more resistant to parasites, supporting the lignification of tissues.

Rameflor is approved for organic farming.

Composition

water-soluble Boron (B) total Copper (Cu) water-soluble Manganese (Mn)

%	Do
0,2	cul
25	Ce
0,5	Flo
	Fo
	Or

Dosage and method of use	ml/hl	I/ha
cultivation	foliar	spray
Cereal	-	1,5-2
Flowering and Ornamental	250-350	-
Forage	-	2,5-3,5
Orchards	250-350	-
Industrial crops	250-350	-
Horticultural plants	250-350	-



bottle 1L



jerry can

5/20 L













TOCUZIN



STATIA®

Plant

- Limits the excessive vigour of the plant
- Strengthens the leaf surface
- Improves lignification
- Promotes tissues cicatrisation

Fruit

• Helps to enhance coloration



folia



zero residue

Statia is a resistance inducer with a completely soluble and innovative formulation, readily

absorbable within plant tissues. It is the perfect product to promote the thickening of the leaf blade and the lignification of tissues.

Depending on the applied dose, Statia controls the plant vigour by shifting the sink-source balance towards flowering and production; if applied close to the veraison, it promotes sugar synthesis and degradation of acids.

Statia can be applied regularly throughout the life cycle of the plant, helping to maintain its healthy conditions and to limit the number of active ingredients used in defence strategies.

STATIA STATIA



In addition, Statia performs a healing action on plant tissues and its use is also recommended after green pruning interventions, on both horticultural and tree cultivations.

Statia's application has zero residue.

Composition

water-soluble Phosphorus Pentoxide (**P**₂**O**₅) water-soluble Potassium Oxide (**K**₂**0**) water-soluble Magnesium Oxide (**MgO**) complexed with Lignin sulfonic acid

%	Dosage and method of use	ml/hl
10	cultivation	foliar
7	Cereal	500-1000
2	Flowering and Ornamental	500-1000
	Forage	500-1000
	Orchards	500-1000
	Industrial crops	500-1000
	Horticultural plants	500-1000

TOCUZIN®

Plant

- Stimulates natural self-defence
- Increases phytohormone synthesis
- Reduces excessive external humidity on plant tissues
- Disinfects the root system
- Prevents copper and zinc deficiencies



liar



fertigation



jerry can

bottle

5/20 L

1L

approved for organic farming

Tocuzin is a resistance inductor containing copper and zinc chelated with citric acid. The innovative organic chelation process allows the rapid distribution of microelements within the plant, also thanks to low values of pH and molecular weight.

The absorption rate due to chelation with citric acid is very high: 50% of zinc is assimilated by leaves in only 3 hours compared to 2 days for zinc sulphate and 24 hours for EDTA chelated zinc.

Tocuzin is a specific product to treat copper and zinc deficiencies. Thanks to its formulation, it stimulates the self-defence of plants and can be assimilated both in the leaves and in the roots; it

naturally induces a lower susceptibility to fungal and bacterial diseases in plantations.

Treated with Tocuzin, the plant acquires an intense green colour and, after some time, it shows a greater vigour, which is essential to overcome periods of thermal stress. Can also be used during flowering, is non-toxic to the plant and pollinating insects

300-400

5-10

Tocuzin is approved for organic farming.

Composition	%	Dosage and method of use	ml/hl	I/ha
water-soluble Copper (Cu)	2	cultivation	foliar	fertigation
water-soluble Zinc (Zn)	4	Cereal	300-400	5-10
		Flowering and Ornamental	300-400	5-10
		Forage	300-400	5-10
		Orchards	400-500	5-10
		Industrial crops	300-400	5-10

Horticultural plants



with M.A.S. technology



Plant

- Improves rhizosphere conditions.
- Nourishes the microbiota
- Mobilizes phosphorus and trace elements
- Does not create toxicity
- Increases attractiveness to pollinating insects
- No residues on crops
- Optimizes production yield



application



fertigation



40



Zulema is a 'biodigested' sulphur-based soil conditioner of microbiological origin, obtained by a process of mineral sulphur transformation by bacteria of the genus *Thiobacillus*.

It can be applied to the soil, even in fertigation, and rapidly improves soil conditions by mobilising nutrients and ensuring better and continuous availability.

Zulema can be used in foliar treatments as a mixture with other products even if its function is that of a corrective. When used by foliar application, it rapidly penetrates plant tissue and has a high resistance to leaching.

Composition

Sulphur (S)









jerry can

5/20 L

1 L

It creates conditions for the colonisation and development of natural symbiont micro-organisms. Zulema, unlike other sulphur products, does not stain plant tissue, is not phytotoxic to the crop and leaves no residue.

The use of Zulema is authorised in organic farming.

December of sections of sections	1/1-1	1/100
Doses and methods of use	ml/hl	1/ha
Crops	foliar	fertigation
Cereal crops	350-450	10-20
Floricultural and Ornamental	250-400	10-20
Forages	400-500	10-20
Industrial	400-500	10-20
Horticultural	300-400	10-20
Orchards	350-450	10-20



Meso and micronutrients

The Mesonutrients and Micronutrients category comprises liquid and water-soluble formulations, based on mesonutrients and micronutrients in a chelated and/or complexed form, ready to be assimilated by leaves and roots in cultivation fields.

The innovative formulation of some products includes, in addition to the EDTA and EDDHA chelating agents, natural and biodegradable ORGANIC COMPLEXING AGENTS.

The chelated and complexed elements are better accepted by all types of plants and guarantee minimum or zero residue.

The complexing agents ensure a better protection of the metal ion and a high availability of this element, even at lower concentrations.











BACA



ETIBOR®

Plant

- Increases flower induction
- Enhances production

Flower

- Stimulates pollen tube germination
- Boosts pollen fertility
- Improves stigma receptivity



foliar application



fertigation

%

11



Etibor is a liquid fertiliser based on boron ethanolamine, suitable for foliar application and fertigation.

The combination of boron and the chelating organic component ensures the immediate absorption of nutrients within the meristematic tissues, without causing phytotoxicity problems to the plant.

Etibor, applied directly to the leaves at preflowering, increases the pollen fertility and, consequently, the fruit set. Applied by fertigation close to the fruit ripening stage, Etibor promotes the sugar synthesis and translocation.

Composition

water-soluble Boron (B)





bottle

jerry can

Etibor is suitable for those cultivations requesting high levels of boron, such as crucifers: its use is recommended on olive trees to improve fruit set, on celery cultivation to prevent splitting of the stalks.

The use of Etibor is approved for organic farming.

Dosage and method of use ml/hl 1/ha cultivation foliar fertigation Cereal 100-300 2-5 Flowering and Ornamental 100-300 2-5 Forage 100-300 2-5 2-5 Orchards 100-300 Industrial crops 100-300 2-5 Horticultural plants 100-300 2-5

MACAL®

Plant

- Reduces physiopathies from Ca and Mn deficiencies
- Promotes leave enlargement
- Stimulates photosynthesis

Fruit

1L

5/20 L

- Prevents apical rot
- Improves organoleptic properties



foliar application

approved for

organic farming



fertigation





jerry can

5/20 L

1 L

Macal is a liquid formulation that provides the simultaneous supply of calcium and magnesium, with the result of strengthening plant tissues and stimulating photosynthetic activity.

It prevents and cures, quickly and effectively, physiopathies from calcium and magnesium deficiencies, such as apical rot of tomatoes, necrosis of grape stalks, upward curling and necrosis of strawberry leaves.

Macal is specially indicated for cultivations of fruits and horticultural plants and is effective when applied directly onto the leaves or by fertigation. The use of Macal is approved for organic farming.

Composition

water-soluble Calcium Oxide (CaO) water-soluble Magnesium Oxide (MgO)

%	Dosage and method of use	ml/hl	1/ha
15	cultivation	foliar	fertigation
5	Flowering and Ornamental	200-300	2-3
	Orchards	200-300	2-3
	Industrial crops	200-300	2-3
	Horticultural plants	200-300	2-3













MEGAFER[®] line

Soil

- High stability and solubility in the 2 11 pH range
- Effectiveness guaranteed in different environmental and agronomic conditions

Plant

- Prevents and treats iron chlorosis
- Long-lasting effect to obtain greener plants



fertigation



carton box

1/5 kg



Megafer and Megafer Plus are iron chelates in the micro-granules form, highly soluble in water. The EDDHA chelating agent guarantees stability to the soil, high persistence and efficacy of the microelement release.

Thanks to the optimal isomeric balance, Megafer and Megafer Plus are the ideal products for the prevention and treatment of iron chlorosis, ensuring high effectiveness at reduced doses. In addition, Megafer and Megafer Plus promote the absorption of other microelements.

Megafer provides the immediate release of iron and ensures its prompt use for the plant, thanks to the higher level of ortho-para (o-p) isomer, if compared to Megafer Plus.

Megafer Plus, on the other hand, features a higher content of ortho-ortho (o-o) isomer, promoting a gradual release of iron over time and a greater stability in the soil.

The Megafer Line is approved for organic farming.

MEGAFER®

Composition e characteristics

water-soluble Iron (**Fe**)
Iron (**Fe**) [o,o] EDDHA chelate
Iron (**Fe**) [o,p] EDDHA chelate
Solubility 300 g/l

%

6

3,5

2,5



Dosage and method of use

cultivation
Flowering and Ornamental
Orchards
Industrial crops
Horticultural

treatment

curative 6-10
curative 70-120 g/plant
curative 6-10
curative 6-10
curative 6-10

 g/m^2

MEGAFER® PLUS

Composition e characteristics

water-soluble Iron (**Fe**)
Iron (**Fe**) [o,o] EDDHA chelate
Iron (**Fe**) [o,p] EDDHA chelate
Solubility 250 g/l



Dosage and method of use

cultivation
Flowering and Ornamental
Orchards
Industrial crops
Horticultural

treatment g/m²

application to soil

preventive 1-3

preventive 30-50 g/plant

preventive 1-3

preventive 1-3

%

6

4,8

1,2

treatment g/m²

application to soil

curative 3-5

curative 50-70 g/plant

curative 3-5

curative 3-5













MUGASOL® MIX

Plant

- Prevents and cures physiopathies from microelements deficiencies
- Promotes photosynthesis
- Increases natural defences

Fruit

• Enhances organoleptic characteristics



foliar application



fertigation



bucket

10 kg



Composition

water-soluble Boron (B)

EDTA chelated Iron (Fe)

water-soluble Zinc (**Zn**)

EDTA chelated Copper (Cu)

water-soluble Manganese (Mn)

approved for organic farming

Mugasol Mix is a blend of highly soluble microelements, recommended to prevent and cure physiopathies from nutritional deficiencies.

Since an efficient control of micro-deficiencies is key, the microelements play an extremely important role, for a regular development of the plant and a plentiful fruit set. The chelation process protects the metal ion within the microelement, increasing its uptake in the roots and the leaves during soil or foliar applications.

The high amount of manganese and zinc gives Mugasol Mix distinctive nutritional features: manganese is a catalyst that enters the synthesis cycle of enzymes related to the production of chlorophyll, while zinc is a crucial microelement for the hormonal balance of the plant and for the control of auxin level.

The use of Mugasol Mix is approved for organic farming.

Dosage and method of use kg/ha g/hl 2 cultivation foliar fertigation 1 100-300 3-5 2 Flowering and Ornamental 100-300 3-5 13 Forage 100-300 3-5 100-300 3-5 Orchards Industrial crops 100-300 3-5 Horticultural 100-300 3-5

MUGASOL® MIX L

Plant

- Prevents and cures physiopathies from microelements deficiencies
- Promotes photosynthesis
- Increases natural defences
- Prompt assimilation

Fruit

• Enhances organoleptic characteristics



foliar application



fertigation



jerry can

bottle

5/20 L

1 L

approved for organic farming

Mugasol Mix L is a blend of microelements indicated to prevent and cure physiopathies from nutritional deficiencies. The microelements in Mugasol Mix L are complexed with citric acid, for a faster absorption within the plant.

The organic chelates increase the product effectiveness, even at low doses and in different environmental conditions.

Mugasol Mix L quickly improves, soon after a few hours from the application, the vegetative state of the plant and raises its resistance to adverse biotic conditions.

Mugasol Mix L, added to fertigation with macroelements, intensifies its effectiveness and completes the nutritional supply.

The use of Mugasol Mix L is approved for organic farming.

Composition	%	Dosage and method of use	ml/hl	1/ha
water-soluble Boron (B)	0,45	cultivation	foliar	fertigation
water-soluble Copper (Cu)	0,50	Cereal	100-300	3-5
water-soluble Iron (Fe)	2,00	Flowering and Ornamental	100-300	3-5
water-soluble Manganese (Mn)	3,00	Forage	100-300	3-5
Water-soluble Molybdenum (Mo)	0,01	Orchards	100-300	3-5
water-soluble Zinc (Zn)	3,00	Industrial crops	100-300	3-5
		Horticultural	100-300	3-5

SERCAL®

Soil

Sub-acid reacting

Plant

- Prevents and treats calcium deficiency pathophysiologies
- Strengthens cell walls

Fruit

- Improves texture
- Increases shelf-life



fertigation



SerCal is a new-generation fluid fertilizer with a high calcium concentration and a sub-acid reaction that facilitates root uptake.

SerCal, containing calcium formate, is designed to increase the mechanical strength of cell walls and reduce physiological damage on fruit, is rapidly absorbed by the plant and quickly translocated through the plant.





bottle



jerry can

5/20 L

1 L

foliar applications on extensive field crops.

The use of Sercal is approved for organic farming.



Composition

water-soluble Calcium Oxide (CaO) water-soluble Boron (B) EDTA chelated Zinc (Zn)

Doses 24 Crops 0.2 Cereal 0.1 Flowerin Forage Orchard Industr Horticu

and methods of use	kg/ha
	fertigation
	5-10
g and Ornamental	5-10
	5-10
S	5-10
al crops	5-10
	5-10



Water and soil correctors

The Water and Soil Correctors category embraces specific formulations that solve field issues related to the characteristics of the irrigation water and/or cultivation soil.

The use of Water and Soil Correctors is particularly recommended to correct the bicarbonate level of calcareous soils,

to increase the organic substance and reduce the salinity of the soil, and to limit the emission of ammonia-nitrogen in the atmosphere.









MIDOTEC



ACIDAM®

Water

- Dissolves bicarbonates
- Lowers pH
- Increases the availability of dissolved nutrients
- Ensures the cleaning of microfluidic systems

Soil

• Moves and makes assimilable the unavailable elements





fertigation



sustainable packaging



jerry can

5/20 L

Acidam is an acid reaction nitrogen corrector with a high percentage of sulfuric anhydride. If applied by fertigation, it has a dissociating effect of chlorides and bicarbonates and a descaling action in microfluidic irrigation systems.

The acid reaction of the solution particularly increases the availability of macro and microelements retained by the colloids in the soil, such as phosphorus and iron, thus correcting the nutritional imbalances of the plant, like iron chlorosis.

The nitrogen in the urea form is less susceptible to leaching and therefore more available for plants.

Composition

60

total Nitrogen (N) of which Urea Nitrogen (N) Sulfur Trioxide (SO₃)

%	Dosage and method of use	1/m³
15	bicarbonate content (mg/L)	fertigation
15	50	0.049
10	100	0.098
	200	0.193
	400	0.387
	To reduce the nH reaction of the irrication water and n	outralias 000% of the

To reduce the pH reaction of the irrigation water and neutralise 90% of the total bicarbonate content accurately, refer to the following table



Soil

- Improves the efficiency of livestock manure
- Stabilises ammonia nitrogen
- Reduces Nitrogen losses



mechanical application



sustainable packaging



jerry can

20/1000 L

Midotec Formula is a stabiliser of the nitrogen coming from livestock manure, containing 3,4-Dimethylpyrazole Phosphate.

During the anaerobic digestion process that the livestock manure undergoes (bio-digestion), the organic nitrogen is mineralised in the form of ammonia nitrogen, which normally would be lost in the environment right after the application. The product of this digestion can thus be used as fertiliser for the most relevant plantations: with Midotec Formula the ammonia nitrogen is stabilised thanks to the inhibitory action of nitrifying bacteria, making it available for plants for 8-12 weeks.

Composition

Solution containing 3,4 DMPP (3,4 Dimethylpyrazole Phosphate)

Midotec Formula reduces nitrogen losses to the environment caused by the leaching of nitrates and gaseous emissions of nitrous oxide. Consequently, in addition to an environmental benefit, it promotes the absorption of nitrogen in the plant, with a significant increase in production.

Midotec Formula can be mixed with the bio-digest product or, after its dilution with water, spread directly on the fertilised soil with livestock manure.

Dosage and method of use1/ton1/hatreatmentsewageareaLivestock manure0,2-Soil-2







SINSAL

5L 0 I



NICAL®

Water

• Lowers pH value

Plant

- Satisfies calcium needs
- Strengthens cell walls

Fruit

Enhances consistency



fertigation



sustainable packaging



jerry can

NICAL

5/20 L

Nical L is an acid solution containing calcium and nitrogen, to be applied by fertigation, that ensures the right amount uptake of these elements by plants.

The product, easily assimilated in the roots, improves the fruit characteristics in terms of dimension and consistency: it thickens the epicarp and provides resistance to cracking, increasing its shelf-life.

Nical L application is recommended for all types of cultivation and, in particular, from fruit set to just before harvesting.

The liquid formulation allows a prompt use of Nical

L, without having to respect the usual dissolving

times of a similar water-soluble granular product.

Composition

total Nitrogen (N) of which Urea Nitrogen (N) water-soluble Calcium Oxide (CaO)

%	Dosage and method of use	I/ha
10	cultivation	fertigation
10	Cereal	20-30
18	Flowering and Ornamental	30-40
	Forage	5-10
	Orchards	30-40
	Industrial crops	20-30
	Horticultural	20-30

SINSAL®

with M.A.S. technology



Soil

- Lowers salinity
- Promotes the flocculation of colloids

approved for

organic farming

• Enhances the structure

Plant

• Reduces physiopathies from sodium accumulation



fertigation



sustainable packaging



bottle

1L



jerry can

5/20 L

Sinsal is an innovative formulation, to be applied by fertigation, containing organic and inorganic components suitable for correcting the salinity of the soil.

The organic part is composed of halophilic bacteria and organic acids, while the inorganic part is composed of calcium, sulfur and microelements. Halophilic bacteria balance the osmotic pressure of the circulating solution, improving elements uptake by plants.

Thanks to the acidifying capability of sulfur, Sinsal removes and makes the sodium accumulated in the colloids of the soil insoluble, replacing it with calcium.

Sinsal promotes the well-being and the development of the plant, by mobilising the micronutrients present in the soil and improving its structure.

Sinsal is approved for organic farming.

Composition

Rhizosphere bacteria 4*107 CFU/ml Bacillus spp. Bacillus subtilis

Mycorrhizae 0.001% w/w Glomus sp.

Dosage and method of use	I/ha
cultivation	fertigation
Orchards	5-10
Horticultural	5-10









UCIDAM®

Soil

- Enhances structure and permeability
- Increases fertility

Seed

Improves germination

Plant

Promotes the absorption of nutrients



application



fertigation



sustainable packaging





jerry can

bottle

5/20 L

1L

Ucidam is a bio-activator in the form of concentrated liquid, which contains humic and fulvic acids extracted from Leonardite. Organic carbon and humic and fulvic acids promote the formation of colloidal complexes and improve the physical and chemical properties of the soil by making the heavy metals present therein unavailable.

Ucidam, applied by fertigation, acts in the structure of the soil and its cation-exchange capacity, increasing fertility, intensifying the imbibition of colloids and improving the water availability for plants.

The low molecular weight and the capacity to be easily absorbed makes it suitable for foliar application, exerting a stimulating action in the metabolism of the plant.

UCIDAM

Ucidam can be used throughout the phenological stages of the plant, as needed.

Composition	%	Dosage and method of use	ml/hl	I/ha
Organic matter (as-is basis)	12	cultivation	foliar	fertigation
Characteristics in % of dry matter:		Cereal	100-200	10-20
Total organic matter	60	Flowering and Ornamental	100-200	10-20
Humified organic matter as % of organic		Forage	100-200	10-20
matter	80	Orchards	100-200	10-20
Organic nitrogen (N)	0,4	Industrial crops	100-200	10-20
C/N ratio	75	Horticultural	100-200	10-20

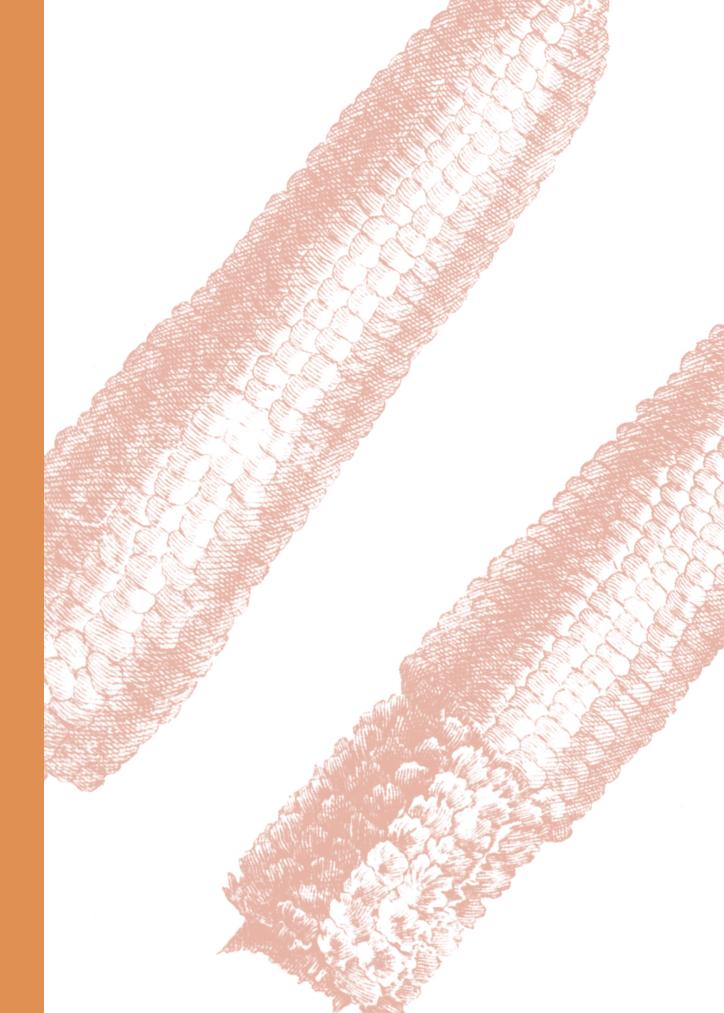


Gel and foliars

The Gel and Foliar product range includes gel, liquid and powder fertilisers for foliar application. These products are distinguished by their HIGH PURITY, SOLUBILITY and STICKINESS to the leaf surface.

The formulations do not involve the use of heavy metals, chlorine and carbonates, which can have caustic effects on plants and release residues.

The foliar nutrient supply is particularly useful in situations of reduced assimilation by roots and in moments of increased demand of nutrients in a plantation, improving the production in terms of quantity and quality.









AZOFLASH®

Plant

- Nourishing effect to obtain greener plants
- High absorbing properties



68

foliar application



sustainable packaging



jerry can

5/20 L

Azoflash is a liquid formulation containing a high concentration of Nitrogen with urease inhibitor (NBPT), for foliar application. It presents the three Nitrogen forms (nitric, ammonia and urea) perfectly balanced, and is able to satisfy the nitrogen needs of plants during the whole vegetative cycle.

The presence of the urease inhibitor NBPT prevents the gasification of urea nitrogen, reducing losses and maximising its absorption.

Thanks to its absorbing properties, Azoflash is able to reduce the physiological stress of the plant; it is particularly suitable for cereal cultivations from late tillering to earing, to improve the quality of cereal plant to obtain an increase of the specific weight and, therefore, a growth of the production quantity.

the grain. The application during earing allows the

AZOFLASI

Composition Dosage and method of use 1/ha % ml/hl total Nitrogen (N) 30 cultivation foliar spray of which Nitric Nitrogen (N) 7,5 Cereal 5-20 7,5 of which Ammonia Nitrogen (N) Forage 5-20 of which Urea Nitrogen (N) 15 Orchards 200-300

SUPRA

Plant

- Promotes plant vigour
- Supports to overcome water and nutritional stress
- Increases reproduction
- Improves grain quality



foliar application



sustainable packaging



jerry can

5/20 L

69

Supra is an innovative formulation containing lignosulfonates and high levels of urea nitrogen, with the urease inhibitor (NBPT), and is rich in sulphur, magnesium and zinc.

The urease inhibitor therein reduces nitrogen losses from volatilisation, increasing the efficiency of the foliar fertilisation.

The lignosulfonates in Supra present a high humectant capacity, that prevents the product from crystallisation on the leaf surface, and a strong stickiness that makes it less susceptible to leaching. Supra must be applied directly onto the leaves during the life cycle of plantations, on evergreen fruit plants, in particular at the growth stage.

SUPRA

For cereal plantations, Supra application is particularly indicated from the late tillering to the earing, to improve the quality of the grain and reduce the whiteness of durum wheat.

Composition Dosage and method of use % ml/hl 1/ha total Nitrogen (N) 16 cultivation foliar spray of which Urea Nitrogen (N) 16 Cereal 15-30 water-soluble Sulfur Trioxide (SO₃) 8 Forage 10-20 water-soluble Magnesium Oxide (MgO) 4 Orchards 500-800 0,1 Industrial crops 10-20

Urease inhibitor: NBPT Industrial crops - 5-20 Zinc (Zn) complexed with lignosulfonic acid 0,1 Industrial crops - 10-20
Horticultural 200-300 - Lignosulfonate complexing agent Horticultural 500-1000 - Urease inhibitor: NBPT







GEL MUGASOL® line

Plant

- Increases productive potential
- Prevents and treats physiopathies from nutritional imbalances
- Attenuates environmental stress

Fruit

Enhances quality



application



fertigation





1 L bottle 5/20 L jerry can

Gel Mugasol products contain the three main elements for the nutrition of the plant and are rich in chelated microelements in a particular, effective and eco-friendly formulation.

The different Gel Mugasol formulations are characterised by the presence of organic matter consisting of surfactants and humectant agents, that allow uniforming the size of the drop and increasing stickiness and duration on the leaf surface.

The gel solution retains nutrients and water, releasing them gradually and progressively onto the leaf surface, increasing cation-exchange capacity, water retention and improving the absorption of nutrients.

The extraordinary solubility (1: 1) and the high concentration of nutrients allow, when needed, a substantial reduction in the water volume used during treatments.

GEL MUGASOL MATUR has a high potassium content and promotes fruit ripening.

GEL MUGASOL RADICO has a high phosphorus concentration and stimulates rooting.

GEL MUGASOL PLANTA is balanced in the three main nutrients and promotes the harmonious development of plants.

GEL MUGASOL VEGETO has a high level of nitrogen and stimulates plant growth.



Composition	%	Matur	Radico	Planta	Vegeto
		NPK+Me	NPK+Me	NPK+Me	NPK+Me
total Nitrogen (N)		10	11	20	28
of which Nitric Nitrogen (N)		7	-	2	1,5
of which Ammonia Nitrogen (N)		-	3,5	-	1,2
of which Urea Nitrogen (N)		3	7,5	18	25,3
water-soluble Phosphoric Anhydride (P ₂ O ₅)		10	40	20	5
water-soluble Potassium Oxide	2 0	31	12	20	5
water-soluble Boron (B)		0,02	0,01	0,02	0,01
Copper (Cu) <i>EDTA</i>		0,01	0,01	0,01	0,01
Iron (Fe) <i>EDTA</i>		0,03	0,03	0,03	0,03
Manganese (Mn) EDTA		0,03	0,03	0,03	0,03
Zinc (Zn) <i>EDTA</i>		0,01	0,01	0,01	0,01

Dosage and method of use	ml/hl	I/ha
cultivation	foliar	fertigation
Cereal		
Flowering and Ornamental		
Forage	200-400	5-10
Orchards		
Industrial crops		
Horticultural		







MEGAFLOR® line

Plant

- Increases productivity
- Prevents and treats physiopathies from nutritional imbalances

Fruit

• Enhances quality and dimension





bag

1/2 kg



Megaflor line consists of foliar fertilisers with macro and microelements, featuring the FST Foliar-Spray Technology, which micronises, chelates and homogenises all raw materials through the addition of specific organic surfactants.

Micronisation and homogenisation provide high solubility to Megaflor; the surfactants contained therein facilitates the drop spreading on the leaf surface, intensifying nutrients uptake.

Megaflor fertilisers are free from impurities, heavy metals, chlorides and carbonates, they are not thus caustic to plant tissues and can be used on all types of cultivation.

Megaflor products have been studied for several nutritional requirements: they are mostly recommended in situations of reduced assimilation within the roots and in moments of increased demand of nutrients in a plantation, improving the production potential in terms of quantity and quality.

Composition	%	8.5.40	15.40.15	20.20.20	10.26	31.8
		NPK+Me	NPK+Me	NPK+Me	NP+B	NP+MgO
total Nitrogen (N)		8	15	20	10	31
of which Nitric Nitrogen (N)		5	5	3,9	-	4
of which Ammonia Nitrogen (N	1)	3	9	3,8	5	3
of which Urea Nitrogen (N)		-	-	12,3	5	24
water-soluble Phosphoric Anh	nydride (P₂O₅)	5	40	20	26	8
water-soluble Potassium Oxic	le (K ₂ O)	40	15	20	-	-
water-soluble Magnesium Oxi	de (MgO)	-	-	-	-	2
water-soluble Sulfur dioxide (SO ₃)	-	-	6	-	-
water-soluble Boron (B)		0,02	0,01	0,01	8	-
Copper (Cu) <i>EDTA</i>		0,02	0,01	0,01	-	-
Iron (Fe) <i>EDTA</i>		0,04	0,03	0,03	-	-
Manganese (Mn) <i>EDTA</i>		0,02	0,02	0,02	-	2
Zinc (Zn) <i>EDTA</i>		0,03	0,01	0,01	-	2

Dosage and method of use

cultivation
Cereal
Flowering and Ornamental
Forage
Orchards
Industrial crops
Horticultural

g/hl foliar

200 - 400

Granulars

The Granular product line includes high quality fertilisers in terms of resistance, consistency, granule uniformity and ballistic features.

The granules have a diameter of 2-4 mm and present a high homogeneity that eases their mechanical distribution.

Some granular fertilisers are enriched with meso elements; others are characterised by specific and innovative technologies, such as the SLOW-RELEASE, which involves the use of stabilised nitrogen forms, in accordance with the European Commission Directives regarding the reduction of nitrogen and carbon dioxide emissions into the atmosphere.







BATTIRIA® COATING

Caracteristics

- With M.A.S. technology
- Restores, regulates and optimizes the native microbial activity of soil
- Increases nutrient availability
- Increases tolerance to salt stress
- Increases the plant's self-defense
- Chloride-free







The Battiria Coating line includes bio-activated granular fertilisers with innovative MAS technology, which means they are coated with natural bioactive molecules that benefit the soil microbiota.

The coating of the granule increases the efficiency and sustainability of the fertiliser while promoting the reconstitution of the soil microbial population.

Battiria fertilisers are suitable for basal and cover fertilisation of all crops, adapted to the specific needs of each farmer.

Battiria Coating does not release nutrients directly, but rather creates a balance between the nutrients in the soil and those supplied through the fertiliser. This balance allows plants to absorb nutrients more efficiently, improving their growth and overall health. Bacillus bacteria become the allies of the plant roots, helping to maximise the nutrient potential of the soil.

The use of Battiria Coating reduces operating costs and reduces CO₂ emissions into the atmosphere; it also helps plants become more resilient to biotic and abiotic stresses, such as disease and adverse weather conditions.

The Battiria line includes low chlorine content fertilisers.



PLANT GROWTH PROMOTING RHIZOBACTERIA (PGPR)

- FIX OF ATMOSPHERIC NITROGEN
- PHOSPHATE SOLUBILIZATION
- MOBILIZATION OF POTASSIUM
- SEIZUREMENT ACTION OF HEAVY METALS
- AUXINE PRODUCTION
- SIDEROPHORE PRODUCTION
- PRODUCTION OF METABOLITES II
- ACC DEAMINASE ACTIVITY



- Improves soil fertility
- Increased stress tolerance saline

100-200

300-500

200-300

200-400

100-200

150-200

Antimicrobial action for a plant healthier

Composition	%	PRIMUS	SEMPER	FORTIS	EST
		NP	NPK	N	NK
Total nitrogen (N)		16	15	40	24
of which ammonia nitrogen (N)		16	10	5	-
of which urea nitrogen (N)		-	5	35	24
Phosphorus pentoxide (P ₂ O ₅) soluble in water		20	9	-	-
Sulfur dioxide (SO₃) soluble in water		28	34	14	-
Potassium oxide (k₂O) soluble in water		-	15	-	29
Iron (Fe)		2	1	-	-
Zinc (Zn)		0,7	-	-	-
Bacillus spp. ≥1x10° CFU/g					
With M.A.S. Technology					
Doses and methods of use	kg/ha				
Crops					
Cereals		150-200	200-300	100-200	200-300

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Forage

Orchards

Industrial crops

Horticultural

M.A.S. technology
Microrganismi Agricoltura Sostenibile

^{*}Microoganisms Sustainable Agriculture





MIREA® line

Characteristics

- With DOS-P® Technology
- Minimises nitrogen losses from volatilisation
- Reduces nitrogen losses from leaching
- Increases nitrogen availability
- Improves production yield
- Progressive and long-lasting nutritional supply



mechanical application



slow-release



sustainable technology



MILITANERO

Mirea is the first line of granular nitrogen fertilisers with the new and unique **DOS-P® Technology**, that minimises, up to over 50%, nitrogen losses to the environment from volatilisation (in the form of ammonia) and leaching (in the form of nitrate).

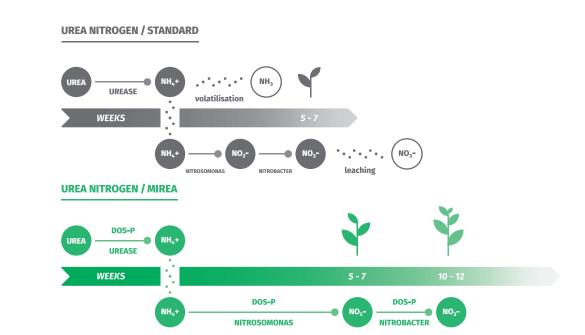
DOS-P® Technology performs a dual action thanks to the presence of the double inhibitor: it blocks the urease enzyme and slows down the transformation of urea nitrogen into ammonia nitrogen, avoiding the formation of ammonia, which is highly volatile. It also inhibits the activity of Nitrosomonas, the bacteria responsible for the nitrification process, and reduces the subsequent transformation of ammonia nitrogen into nitric nitrogen, avoiding its excessive availability at inappropriate times for plantations and its related losses to the environment due to leaching.

Mirea increases the farming yield without affecting production costs, by improving the efficiency of the nitrogen fertilisation.

Mirea can also be applied well in advance of the rainfall period, thanks to the DOS-P® Technology, which prevents nitrogen losses from volatilisation, typical of traditional formulations.

Mirea line products respect the environment and comply with the European regulations for the reduction of nitrogen and carbon dioxide emissions into the ecosystem.

DOS-P[®] technology



Composition	% 2	2.9.24	24.0.29	32.0.18	34	46
		NPK	NK	NK	N+SO ₃	N
total Nitrogen (N)		22	24	32	34	46
of which Nitric Nitrogen (N)		-	-	-	-	-
of which Ammonia Nitrogen (N)		3,6	-	-	11	-
of which Urea Nitrogen (N)		18,4	24	32	23	46
Phosphorus Pentoxide (P,O,) solu	ble in	9	-	-	-	-
neutral ammonium citrate and w	ater					
water-soluble Potassium Oxide ((,0)	24	29	18	-	-
water-soluble Sulphur Trioxide (S	O ₃)	-	-	-	28	-
	3					
With DOS-P ® Technology						

Dosage and method of use kg/ha					
cultivation					
Cereal	100-300	100-300	100-300	100-300	100-300
Forage	200-300	200-300	200-300	200-300	200-300
Orchards	300-400	300-400	300-400	400-500	400-500
Industrial crops	200-300	200-300	200-300	200-400	200-400
Horticultural	300-400	300-400	300-400	300-400	300-400





AUREA[®] line

Characteristics

- With urease inhibitor
- Minimises nitrogen losses from volatilisation
- Increases nitrogen availability
- Improves production yield
- Progressive and long-lasting nutritional supply



mechanical application





The Aurea line includes slow-release fertilisers containing urea nitrogen with the urease inhibitor NBPT "N(n-butyl) Thiophosphoric Triamide".

The urease enzyme is naturally produced by the fungi and bacteria present in high quantities in the soil surface. Right after the application, the urea is hydrolysed by the urease enzyme, producing ammonium carbonate and ammonia (highly volatile) which is dispersed into the environment by volatilisation.

By applying Aurea to the soil, the NBPT inhibits the urease enzyme to slow down the transformation of urea nitrogen into ammonia. In this way, the nitrogen stays longer in the soil and its losses due to volatilisation are significantly reduced. Ammonia nitrogen guarantees a sub-acid environment for the roots, with a beneficial effect on the assimilation of elements of low mobility in the soil.

Aurea does not need to be buried and enables the scheduling of the top dressing fertilisations

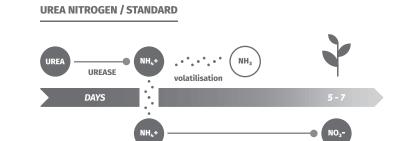




regardless of the weather forecast. This feature strongly helps companies in the logistics and organisation of the fertilisation plan.

The Aurea line products respect the environment and comply with the European regulations for the reduction of nitrogen and carbon dioxide emissions into the ecosystem.

NBPT urease inhibitor



UREA NITROGEN / AUREA

UREA UREASE DAYS NH₄+ 10 - 12

%	22.9.24	24.0.29	32.0.18	34 S	46
	NPK	NK	NK	N+SO ₃	N
	22	24	32	34	46
	-	-	-	-	-
	3,6	-	-	11	-
	18,4	24	32	23	46
ole in	9	-	-	-	-
ter					
	24	29	18	-	-
)3)	-	-	-	28	-
е					
	% ble in ter O) O ₃)	NPK 22 - 3,6 18,4 ale in 9 ter 0) 24 0) 3	NPK 22 24 3,6 - 18,4 24 Dele in 9 - ter 0) 24 29 3)	NPK	NPK 22 24 32 34 3,6 - 11 18,4 24 32 23 elle in 9 ter 0) 24 29 18 - 28

Dosage and method of use kg/ha					
cultivation					
Cereal	200-300	200-300	200-300	200-300	200-300
Forage	200-300	200-300	200-300	400-500	200-300
Orchards	300-400	300-400	300-400	300-400	300-400
Industrial crops	200-300	200-300	200-300	200-300	200-300
Horticultural	200-300	200-300	200-300	200-300	200-300





MIDOTEC® line

Characteristics

- With nitrification inhibitor
- Reduces nitrogen losses from leaching
- Increases nitrogen availability
- Improves production yield
- Progressive and long-lasting nutritional supply



mechanical application



slow-release



sustainable technology



The Midotec line consists of slow-release granular fertilisers containing the nitrification inhibitor 3,4 DMPP (3,4 Dimethylpyrazole phosphate).

The nitrification bacteria are responsible for the transformation of ammonia nitrogen into nitric nitrogen in the soil; this process is slowed down by the inhibitor for 8-12 weeks: the ammonia nitrogen, having a positive charge, is not subject to leaching and remains in the soil for a longer period of time before being transformed into nitric nitrogen, which has a negative electrical charge and is not retained by the colloids of the soil. A greater presence of ammonia nitrogen ensures a sub-acid environment for the root, with benefits on the assimilation of the less mobile mineral elements in the soil.

The use of Midotec fertilisers brings obvious economic benefits for farmers, in particular a greater availability of nitrogen for cultivation, which means fewer fertiliser applications.

Midotec fertilisers can be applied over the entire

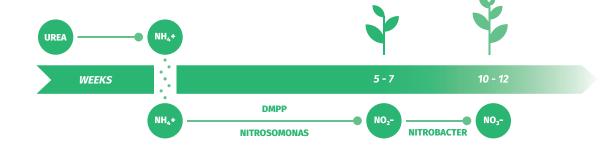
DMPP nitrification inhibitor

WEEKS NO₃-

NITROSOMONAS

UREA NITROGEN / MIDOTEC

UREA NITROGEN / STANDARD



NITROBACTER

leaching



25 kg

area or located along the row for basal or top dressing fertilisations.

Midotec line products respect the environment and comply with the European regulations for the reduction of nitrogen and carbon dioxide emissions into the ecosystem.

The Midotec line includes low chlorine content fertilisers.

Composition



	NPK+SO ₃	NPK+SO ₃	NPK+MgO+B	NPK	NK	NK
total Nitrogen (N)	12	13	20	22	19	24
of which Nitric Nitrogen (N)	-	-	-	-	-	-
of which Ammonia Nitrogen (N)	7,5	13	12,5	3,6	-	-
of which Urea Nitrogen (N)	4,5	-	7,5	18,4	19	24
Phosphorus Pentoxide (P₂O_s) soluble in neutral ammonium citrate and water	8	13	12	9	-	- 0
water-soluble Potassium Oxide $(\mathbf{K_2O})$	25	20	10	24	35	29
water-soluble Magnesium Oxide (MgO)	-	-	-	-	= /	-
water-soluble Sulphur Trioxide (SO ₃)	36	37	31	-	-	-
water-soluble Boron (B)	-	-	-	-	-	-
Iron (Fe)	-	-	-	-	-	-
With 3,4 DMPP nitrification inhibitor (3,4-Dimethylpyrazole Phosphate)						
Dosage and method of use kg/ha						
Cereal	_	_	_	100-300	100-300	100-300
Forage	_	_	_	200-300	200-300	200-300
Orchards	300-500	400-500	300-500	300-400	300-400	300-400
	300-300	400-300	300-300	200-300	200-300	200-300
Industrial crops Horticultural	-	-	_			
HOTUCULUIAL	-	-	-	300-400	300-400	300-400

13.13.20 20.12.10 22.9.24

Composition	%	32.0.18	15.28	25.15	21	26	46
		NK	NP+SO ₃ +Fe	NP	N+SO ₃	N+SO ₃	N
total Nitrogen (N)		32	15	25	21	26	46
of which Nitric Nitrogen (N)		-	-	10	-	0	-
of which Ammonia Nitrogen (N)		-	15	15	21	17	-
of which Urea Nitrogen (N)		32	-	-	-	9	46
Phosphorus Pentoxide (P₂O₅) soluble neutral ammonium citrate and wate		-	28	15	-	-	-
water-soluble Potassium Oxide (K ₂ 0)	18	-	-	-	-	-
water-soluble Magnesium Oxide (Mg	(O)	-	2	-	-	-	-
water-soluble Sulphur Trioxide (SO ₃)		-	7	-	60	48	-
water-soluble Boron (B)		-	-	-	-	-	-
Iron (Fe)		-	2	-	-	-	-
With 3,4 DMPP nitrification inhibitor (3,4-Dimethylpyrazole Phosphate)							
Dosage and method of use k	g/ha						
cultivation	9, 1101						
Cereal		100-300	100-300	100-300	100-300	100-300	100-300
Forage		200-300	200-300	200-300	200-300	200-300	200-300
Orchards		300-400	-	400-500	400-500	400-500	300-400
Industrial crops		200-400	200-400	200-400	200-400	200-400	200-400
Horticultural		300-400		300-400			
HOLLICUITUITAL		300-400	300-400	300-400	300-400	300-400	300-400

4

24.0.29





kg/ha

MIDOTEC® GOLD

Characteristics

- With Isobutylidene diurea
- Gradually releases nitrogen into the soil
- Improves the supply of magnesium, iron and sulphur
- Progressive and long-lasting nutritional supply



mechanical application



sustainable technology





bag

25 kg

slow-release

Midotec Gold is a complex granular fertiliser, with slow-release nitrogen based on Isobutylidene diurea (IBDU), specific for the basal and top dressing fertilisations of all types of cultivation. The gradual release of urea nitrogen from IBDU occurs by hydrolysis, regardless of the microbial activity and the temperature of the soil.

Midotec Gold contains nitric nitrogen and ammonia nitrogen, promptly available and slow released by IBDU: the nitric and ammoniacal components satisfy the initial growth needs, while the urea nitrogen coming from IBDU represents a nitrogen reserve in the soil that, released slowly in an assimilable form, supports the different stages of the plant development over time.

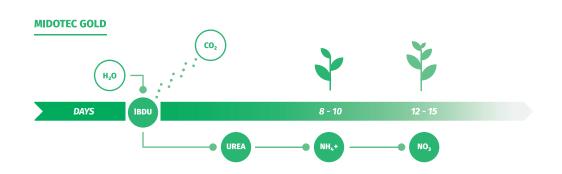
Midotec Gold exerts an acidifying action in the soil due to the presence of sulphur, which promotes the availability of the nutritional elements otherwise blocked by colloids.

The presence of magnesium and iron completes the performance of the fertiliser, ensuring a more

intense colour of the leaves and enhancing the production.

Midotec Gold is a low chlorine content fertiliser.

IBDU technology



6

5

9

15

2

17

1,4

Composition

total Nitrogen (N)
of which Nitric Nitrogen (N)
of which Ammonia Nitrogen (N)
of which Isobutylidene Diurea (N)

Phosphorus Pentoxide (P₂O₅) soluble in neutral ammonium citrate and water water-soluble Potassium Oxide (**K**,**O**)

water-soluble Magnesium Oxide (**MgO**) water-soluble Sulphur Trioxide (**SO**₃) Iron (**Fe**)

With IBDU

% Dosage and method of use15 cultivation

Flowering and Ornamental 200-400
Orchards 600-800
Industrial crops 200-400
Horticultural 400-800

Horticultural



MAGICOLOR® line

Characteristics

- Rich in microelements
- Helps to obtain greener plants
- Sub-acid reacting





bag

25 kg



The Magicolor line consists of highly soluble granular fertilisers, that can be used also on chlorine-sensitive cultivations. Containing meso and micronutrients (iron, manganese and zinc), they provide for greener plants and an overall improvement in the quality of the production.

Some of the Magicolor products have a good supply of sulphur and sub-acid reactions, which increase the availability of the less mobile nutrient elements in the soil, preventing physiopathies from nutritional deficiencies.

Magicolor can be easily applied, also spot wise, thanks to the uniformity of its granules; such characteristic makes Magicolor particularly suitable for basal and top dressing fertilisations on extensive horticultural and tree cultivations.

Composition	%	11.5.11	13.16.8	18.6.6	21
total Nitrogen (N)		NPK+SO ₃ +Me 11	NPK+SO ₃ +Me 13	NPK+SO ₃ +Me 18	N+SO ₃ +Me 21
of which Nitric Nitrogen (N)		5	4,2	8,3	-
of which Ammonia Nitrogen (N)		6	8,8	9,7	12,3
of which Urea Nitrogen (N)		-	-	-	7,7
Phosphorus Pentoxide (P₂O₅) solub neutral ammonium citrate and wat		5	16	6	-
water-soluble Potassium Oxide (K ₂ 0)	11	8	6	-
total Sulphur Trioxide (SO ₃)		12	7	7	38
Iron (Fe)		3	2,5	2	2
Manganese (Mn)		0,1	0,1	0,1	0,1
Zinc (Zn)		0,02	0,02	0,02	0,02

Dosage and method of use kg,	/ha			
cultivation				
Cereal	-	-	-	300-400
Flowering and Ornamental	300-400	300-400	300-400	300-400
Forage	200-300	200-300	200-300	200-300
Orchards	600-700	600-700	500-600	400-500
Industrial crops	300-400	300-400	300-400	300-400
Horticultural	300-400	300-400	200-300	300-400



VIKING® line

Characteristics

- Chloride-free
- Suitable for all types of cultivation
- Balanced supply of main nutrients
- Improves the magnesium and sulphur uptake





bag

25 kg

The Viking line includes complex granular fertilisers, specifically developed for the basal and top dressing fertilisations, to all types of cultivations. Some of the Viking line products present a good supply of sulphur and magnesium.

The Viking products are characterised by the regular size of their granules, high solubility and sub-acid reaction, due to the presence of sulphur coming from the sulfuric anhydride, which is soluble in water, increasing the availability of the nutritional elements present in the soil, preventing deficiencies and physiopathies and improving the quality of the production.

The Viking line is a low chlorine content fertilisers line.



Composition	%	11.22.16	12.10.20	12.12.17	20.5.10	20.10.10	40
		NPK+SO3+Fe	NPK+MgO+SO ₃	NPK+MgO+SO ₃ +Zn	NPK+SO ₃	NPK+SO ₃	N+SO ₃
total Nitrogen (N)		11	12	12	20	20	40
of which Nitric Nitrogen (N)		-	5,3	-	9,5	9,5	-
of which Ammonia Nitrogen (N)		11	6,7	12	10,5	10,5	5
of which Urea Nitrogen (N)			-		-	-	35
Phosphorus Pentoxide (P2O5) soluble	in	22	10	12	5	10	-
neutral ammonium citrate and water	-						
water-soluble Potassium Oxide (K ₂ O)		16	20	17	10	10	-
water-soluble Magnesium Oxide (Mg	O)	-	2	2	-	-	-
total Sulphur Trioxide (SO ₃)		24	10	37	5	6	14
· /=)							
Iron (Fe)		1	-	-	-	-	-
Zinc (Zn)		-	-	0,1	-	-	-

Dosage and method of use	kg/ha					
Flowering and Ornamental	200-400	200-400	200-400	200-400	200-400	400-500
Orchards	400-600	600-800	400-600	400-600	400-600	300-400
Industrial crops	400-600	400-600	400-600	400-600	400-600	200-300
Horticultural	400-800	400-800	400-800	400-800	400-800	200-300





Characteristics

- Presents an acidifying action
- Enhances the soil structure
- Promotes the development and activity of microorganisms



mechanical application



stability over time.

Complesal Bio is an organic mineral fertiliser, authorised in organic farming, containing nitrogen, phosphorus and potassium, and is rich in calcium. It is extremely homogeneous, not breaking into minor parts and presenting low humidity, ensuring

The organic carbon contained in Complesal Bio increases the fertility of the soil, improving its structure and promoting the activity of microorganisms.

The nitrogen comes from meat meal and is slowly transformed in the soil by microorganisms into assimilable forms, without presenting losses from leaching; organic phosphorus, on the other hand,

Composition	%
total Nitrogen (N)	4
of which Organic Nitrogen (N)	4
total Phosphorus Pentoxide (P₂O₅)	3
water-soluble Potassium Oxide (K₂O)	12
total Sulphur Trioxide (SO ₃)	12
total Calcium Oxide (CaO)	10
Organic Carbon (C)	22





bag

5

comes from bone meal, and remains available in the long term.

25 kg

The high potassium supply, coming from the potassium sulphate extracted from mines, promotes the sugar accumulation and the colouring of the fruit, improving the quality of the production.

Moreover, Complesal Bio exerts a moderate and progressive acidifying action to the soil, promoting a greater availability of the nutrients, otherwise blocked by the colloids of the soil, thanks to its considerably high sulphur content.

Complesal Bio is suitable for both basal and top dressing fertilisations.

Dosage and method of use	kg/ha
cultivation	
Flowering and Ornamental	600-800
Forage	400-600
Orchards	600-800
Industrial crops	600-800
Horticultural	800-1000



Water-soluble

embraces, in addition to pure salts for fertigation, high-performance complex fertilisers, characterised by great purity, solubility and homogeneity.
All items in the Water-soluble product range are "FREE-FLOWING": after being submitted to a drying treatment under controlled temperatures, these products present a low moisture rate, which makes them avoid the "caking" phenomenon.

The Water-soluble products category

The Water-soluble products include a range of fertilisers adopting the company's "SLOW-RELEASE" technology, based on stabilised nitrogen forms.





ENNNÈ® line

Characteristics

- Contains nitrification inhibitor
- Chloride-free
- Reduces nitrogen losses from leaching
- Increases Nitrogen availability
- Has an acidifying effect
- Improves the production yield

slow-release



fertigation



sustainable





technology

The Ennnè Line is composed of slow-release fertilisers containing the nitrification inhibitor 3,4 **DMPP** (3,4 Dimethylpyrazole phosphate), suitable for fertigation in all types of plantations, lawns and tree nurseries.

The 3,4 DMPP nitrification inhibitor promotes a long-lasting presence of nitrogen in the soil, reducing losses due to nitrate leaching, especially when frequent irrigation is needed. Ennnè fertilisers have an acidifying effect on the rhizosphere that lasts over time, thanks to the presence of the promptly soluble sulphur and the ammonia nitrogen which remains in the soil for long; the result is an easier assimilation within the

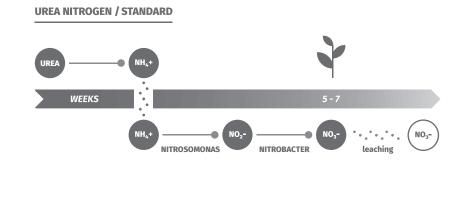
plant of all less mobile nutrients in the soil.

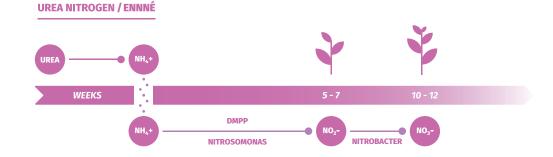
The Ennnè products are treated with an exclusive dehumidification process in controlled atmosphere, developed by Mugavero, to exclude caking issues. These fertilisers are also characterised by their high homogeneity and solubility and are free from chlorine and sodium.

The products of the Ennnè line respect the environment and comply with European regulations for the reduction of nitrogen and carbon dioxide emissions in the ecosystem.

The Ennnè line includes low chlorine content fertilisers.

DMPP nitrification inhibitor





Composition	%	11.22.22	18.18.18	20.5.20	14.48	21
		NPK+MgO	NPK+SO ₃	NPK+SO ₃	NPK+SO ₃	N+SO ₃
total Nitrogen (N)		11	18	20	14	21
of which Nitric Nitrogen (N)		4	2	5	-	-
of which Ammonia Nitrogen (N)		7	6	9	14	21
of which Urea Nitrogen (N)		-	10	6	-	-
water-soluble Phosphorus Pent	oxide (P₂O₅)	22	18	5	48	-
water-soluble Potassium Oxide	(K ₂ O)	22	18	20	-	-
water-soluble Magnesium Oxide	(MgO)	2	-	-	-	-
water-soluble Sulphur Trioxide ((SO_3)	-	16	20	11,5	57,5
With 3,4 DMPP nitrification inhib	itor					
(3,4-Dimethylpyrazole Phosphate	5)					

Dosage and method of use

Flowering and Ornamental Orchards Industrial crops Horticultural

kg/ha	
25-50	
application	



NIGER[®] line

Characteristics

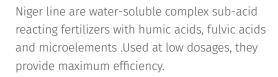
- With humic and fulvic acids
- Chloride-free
- Meets macro and micronutrient requirements.
- Increases the humectant power of the rhizosphere
- Increases root system development
- Improves productivity





bag

10 kg



The use of Niger results in a significant boost of the plant's metabolic processes, contributing to high quality and quantity standards.

The Niger line is extremely complete and highperforming for plant nutrition and is characterized by high homogeneity and solubility.

The Niger line includes low chlorine content fertilisers.

Niger 500 is used in the vegetative stage and in all situations where a higher nitrogen supply is required.

Niger 600 is used throughout the vegetativeproductive cycle of the crop when a balanced supply of macro- and microelements is required.

Niger 650 is particularly suitable in the early vegetative stages to facilitate rooting and establishment in post-transplantation.

Niger 700 is used in the final stages of fruit swelling and ripening and in all situations where a higher potassium supply is required.



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Total nitrogen (N)
of which nitric nitrogen (N)
of which ammonia nitrogen (N)
of which urea nitrogen (N)
Phosphorus dioxide (P ₂ O ₅) soluble in water
Potassium oxide (K2O) soluble in water
water-soluble Sulphur Trioxide (SO ₃)

Boron (B) soluble in water
Copper (Cu) chelated with EDTA
Iron (Fe) chelated with EDDHA
Manganese (Mn) chelated with EDTA
Zinc (Zn) chelated with EDTA

Containing more than 3% Humic and Fulvic acids

Doses and methods of use

Crops
Flowering and Ornamental
Orchards
Industrial crops
Horticultural

500 NPK+*M*e

21

4

9,7

7,3

7

14

22

0,01

0.01

0,03

0,10

0,10

600	6
NPK+Me	NPh
18	
5	
6	
7	
18	4
18	
9	
0,01	0
0,01	0
0,03	0

0,10

0,10

IPK+Me	NPK+N
11	9
2	6
9	3
-	-
49	15
6	33
4	23
0,01	0,01
0,01	0,01
0,03	0,03
0,10	0,10

0,10

0,10

kg/ha 20-30 application



MAXILEAF[®] line

Characteristics

- With EDTA chelated microelements
- Total and prompt solubility
- Suitable for all types of fertigation systems
- Satisfies the need for macro and micronutrients







The Maxileaf product range includes complex microcrystalline water-soluble fertilisers, with low chlorine and sodium content, characterised by a complete and immediate solubility.

The high homogeneity of the microcrystalline formulation guarantees a prompt solubilisation in the moment of the application, leaving no unsolved residue, and makes it suitable for Maxileaf in all types of fertigation systems.

The amount of EDTA chelated microelements satisfies the nutritional needs of all types of cultivation.

The Maxileaf line is treated with an exclusive dehumidification process in a controlled atmosphere, developed by Mugavero, to exclude caking issues.

The Maxileat	line	includes	low	chlorine	content
ertilisers.					

Composition	%	8.24.24 NPK+Me	13.40.13 NPK+Me	20.5.20 NPK+Me	20.20.20 NPK+Me
total Nitrogen (N)		8	13	20	20
of which Nitric Nitrogen (N)		2	4	5	3,6
of which Ammonia Nitrogen (N)		6	9	9	3,9
of which Urea Nitrogen (N)		-	-	6	12,5
water-soluble Phosphorus Pentoxid	$e(P_2O_5)$	24	40	5	20
water-soluble Potassium Oxide (K ₂ C))	24	13	20	20
water-soluble Boron (B)		0.01	0.01	0.01	0.01
		0,01	0,01	0,01	0,01
EDTA chelated Copper (Cu)		0,01	0,01	0,01	0,01
EDTA chelated Iron (Fe)		0,03	0,03	0,03	0,03
EDTA chelated Manganese (Mn)		0,02	0,02	0,02	0,02
EDTA chelated Zinc (Zn)		0,01	0,01	0,01	0,01

Dosage and method of use

cultivation Flowering and Ornamental Orchards Industrial crops Horticultural

kg/ha

25-50 application



MUGASOL® line

Characteristics

- Chloride-free
- Loaded with microelements
- Total and prompt solubility
- Satisfies the need for macro and micronutrients



25 kg



The Mugasol line includes complex water-soluble fertilisers, free from chlorides, characterised by a total and immediate solubility.

Mugasol products are suitable for the use in fertigation of plantations sensitive to chlorine or salinity, such as grapevines, onions and tobacco.

The amount of EDTA chelated microelements satisfies the nutritional needs of all types of cultivation.

The Mugasol line is treated with an exclusive dehumidification process in a controlled atmosphere, developed by Mugavero, to exclude caking issues.

The Mugasol line includes low chlorine content fertilisers.

Composition	%	8.24.24	13.40.13	15.5.30	9.18.27	20.20.20	24.12.12
		NPK+Me	NPK+Me	NPK+Me	NPK+Me	NPK+Me	NPK+Me
total Nitrogen (N)		8	13	15	9	20	24
of which Nitric Nitrogen (N)		2	4	9	2	3,6	4
of which Ammonia Nitrogen (N)		6	9	6	7	3,9	8
of which Urea Nitrogen (N)		-	-	-	-	12,5	12
water-soluble Phosphorus Pento	$xide(P_2O_5)$	24	40	5	18	20	12
water-soluble Potassium Oxide (K_2O	24	13	30	27	20	12
water-soluble Magnesium Oxide	(MgO)	-	-	2	-	-	-
water-soluble Sulphur Trioxide (SO ₃)	21	-	12	25	6	-
water-soluble Boron (B)		0,01	0,01	0,01	0,01	0,01	0,01
EDTA chelated Copper (Cu)		0,01	0,01	0,01	0,01	0,01	0,01
EDTA chelated Iron (Fe)		0,03	0,03	0,03	0,03	0,03	0,03
Manganese (Mn)		0,02	0,02	0,02	0,02	0,02	0,02
Zinc (Zn)		0,01	0,01	0,01	0,01	0,01	0,01

Dosage and method of use

cultivation Flowering and Ornamental Orchards Industrial crops Horticultural

kg/ha			
25-50			
application			

MUGASOL



IDROPLANT[®] line

Characteristics

- Absolutely free from urea
- Low salinity
- Suitable for alkaline soils
- Chloride-free
- Appropriate for chlorine-sensitive cultivations





bag

25 kg



The Idroplant line consists of complex watersoluble fertilisers, free from urea nitrogen and chlorides, enriched with microelements.

Containing nitric nitrogen, ammonia nitrogen, and absolutely free from urea nitrogen, the specific formulation of Idroplant products makes them suitable for soils with sub-alkaline and alkaline pH, ensuring a correct acidification of the rhizosphere. In alkaline soils, the urea nitrogen can be transformed by hydrolysis into ammonium carbamate, increasing the pH value of the soil with a consequential worsening of cultivation yields.

The Idroplant line is treated with an exclusive dehumidification process in a controlled atmosphere, developed by Mugavero, to exclude caking issues.

Composition	%	7.13.40	15.30.15	19.19.19	25.10.10
		NPK+Me	NPK+Me	NPK+Me	NPK+Me
total Nitrogen (N)		7	15	19	25
of which Nitric Nitrogen (N)		5	6	10,5	12
of which Ammonia Nitrogen (N)		2	9	8,5	13
water-soluble Phosphorus Pentox	ide (P₂O₅)	13	30	19	10
water-soluble Potassium Oxide (K	, o)	40	15	19	10
	_				
water-soluble Boron (B)		0,01	0,01	0,01	0,01
EDTA chelated Copper (Cu)		0,01	0,01	0,01	0,01
EDTA chelated Iron (Fe)		0,03	0,03	0,03	0,03
EDTA chelated Manganese (Mn)		0,02	0,02	0,02	0,02
EDTA chelated Zinc (Zn)		0,01	0,01	0,01	0,01

Dosage and method of use

cultivation
Flowering and Ornamental
Orchards
Industrial crops
Horticultural

kg/ha
25-50
application

MAGNA 16

Composition

water-soluble Magnesium Oxide (MgO) water-soluble Sulphur Trioxide (SO₃)

MAP 12.61.0

Composition

16

32

11

11

total Nitrogen (N) of which Ammonia Nitrogen (N) water-soluble Phosphorus Pentoxide (P₂O₅) 61

NICAL®

Composition

total Nitrogen (N) 15,5 of which Nitric Nitrogen (N) 14,5 of which Ammonia Nitrogen (N) 26,5 water-soluble Calcium Oxide (CaO)

MKP 0.52.34

Composition

water-soluble Phosphorus Pentoxide (P,O₅) 52 water-soluble Potassium Oxide (K,O)

NIMAG®

Composition

total Nitrogen (N) of which Nitric Nitrogen (N) water-soluble Magnesium Oxide (MgO)

NITROSOL® 34

Composition

total Nitrogen (N)

of which Nitric Nitrogen (N)

of which Ammonia Nitrogen (N)

NK 13

Composition

total Nitrogen (N) of which Nitric Nitrogen (N) water-soluble Potassium Oxide (K,O 46

SOP 0.0.51

Composition

51 13 water-soluble Potassium Oxide (K,O) 13 water-soluble Sulphur Trioxide (SO₃)

UREA PHOSPHATE

Composition total Nitrogen (N)

18 of which Urea Nitrogen (N) 18 water-soluble Phosphorus Pentoxide (P,O,)

bag fertigation





PRODUCTS A-Z

Product name	organic	pag.	Product name	organic	pag.
ACIDAM		60	MACAL	•	51
ALGASTAR	•	18	MAGICOLOR 11.5.11		88
ASWELL	•	19	MAGICOLOR 13.16.8		88
AUREA 22.9.24		80	MAGICOLOR 18.6.6		88
AUREA 24.0.29		80	MAGICOLOR 21		88
AUREA 32.0.18		80	MAGNA 16		105
AUREA 34 s		80	MAP 12.61.0		105
AUREA 46		80	MATURAU		28
AZOFLASH		68	MAXILEAF 13.40.13		99
BATTIRIA primus		76	MAXILEAF 20.20.20		99
BATTIRIA semper		76	MAXILEAF 20.5.20		99
BATTIRIA fortis		76	MAXILEAF 8.24.24		99
BATTIRIA est		76	MEGAFER	•	52
BATTIRIA FLUID	•	20	MEGAFER PLUS	•	52
BIOTONICAL	•	32	MEGAFLOR 10.26		72
B&VI	•	21	MEGAFLOR 15.40.15		72
BOS		38	MEGAFLOR 20.20.20		72
CANTA		22	MEGAFLOR 31.8		72
COMPLESAL BIO	•	92	MEGAFLOR 8.5.40		72
ENNNE' 11.22.22		95	MIDOTEC 12.8.25		82
ENNNE' 20.5.20		95	MIDOTEC 13.13.20		82
ENNNE' 18.18.18		95	MIDOTEC 15.28		82
ENNNE' 14.48		95	MIDOTEC 20.12.10		82
ENNNE' 21		95	MIDOTEC 21		82
ETIBOR	•	50	MIDOTEC 26		82
FOSFIPOTAS		39	MIDOTEC 19.0.35		82
GEL MUGASOL Vegeto		70	MIDOTEC 22.9.24		82
GEL MUGASOL Matur		70	MIDOTEC 24.0.29		82
GEL MUGASOL Radico		70	MIDOTEC 25.15		82
GEL MUGASOL Planta		70	MIDOTEC 32.0.18		82
GRAN RISERVA		23	MIDOTEC 46		82
HYPERPHOSE		40	MIDOTEC FORMULA		61
IDROPLANT 15.30.15		103	MIDOTEC GOLD		86
IDROPLANT 19.19.19		103	MIREA 22.9.24		78
IDROPLANT 25.10.10		103	MIREA 24.0.29		78
IDROPLANT 7.13.40		103	MIREA 32.0.18		78
KELPSTAR		24	MIREA 34		78
KELPSTAR BORO		25	MIREA 46		78
LIRA	•	41	MKP 0.52.34		105

Pro	oduct name	organic	pag.
МС	OVITA		26
MC	OVITA TWIN		26
ML	IGASOL 8.24.24		25
ML	IGASOL 13.40.13		101
ML	IGASOL 15.5.30		101
ML	IGASOL 18.9.27		101
ML	IGASOL 20.20.20		101
ML	IGASOL 24.12.12		101
ML	IGASOL MIX	•	54
ML	IGASOL MIX L	•	55
NA	TURAL ZEOLITE	•	42
NIC	CAL		105
NIC	CAL L		62
NIC	GER L	•	29
NIC	GER 500		97
NIC	GER 600		97
NIC	GER 650		97
NIC	GER 700		97
NIA	MAG		27
NIT	ROSOL 34		105
NK	13		105
PE	TALOSO	•	30
RA	MEFLOR	•	43
SEF	RCAL	•	56
SIN	ISAL	•	63
SO	P 0.0.51		79
STA	ATIA		44
SU	PRA		69
ТО	CUZIN		45
ТО	NICAL		32
TYS	SON		31
UC	IDAM		64
UP	UREA PHOSPHATE		105
UP	PER GROW		34
VIK	ING 11.22.16		90
VIK	ING 12.10.20		90
VIK	ING 12.12.17		90
VIK	ING 20.10.10		90
VIK	ING 20.5.10		90

Product name	organic	pag.
VIKING 40		90
ZULEMA	•	46



LOGISTICS and TRANSPORTATION

Small pallet				
FORMAT	CAPACITY	PIECES/CARTON	CARTON/PALLET	TOTAL PIECES
Dottle	1 L	16	36	576
	5 L	4	40	160
jerry can	20 L	-	32	32
	1 kg	24	36	864
bag	2 kg	12	36	432
	1 kg	10	36	360
box	5 kg	2	36	72
ig pallet		1		
FORMAT	CAPACITY	PIECES/CARTON	CARTON/PALLET	TOTAL PIECES
bottle	1 L	16	63	1008
	5 L	4	40	160
jerry can	20 L	-	42	42
	1 kg	24	63	1512
bag	2 kg	12	63	756
	1 kg	10	63	630
box	5 kg	2	63	126
ontainer				
FORMAT	PACKAGING	BAGS/PALLET	PALLETS/CONTAINER	TOTAL/MT
	25 kg	48	20	24
bag	10 kg	100	20	20

NOTES

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