

# NATURAL BIOSOLUTIONS

ALWAYS ON OUR MIND

BIOSTIMULANTS

BIOCONTROLS



MAFA

# BIOTECHNOLOGY.

NATURAL BIOSOLUTIONS



## BIOSTIMULANTS

Biopromoters with natural active ingredients.



## REGULATORS

Soil and water conditioners.



## PHYTOBIOTICS

Highly technical biopesticides.



I+D+i



Expert Agronomists



Zero Residue



# MAFA

## Certifications, Collaborators and Associations.



### INSTALLATIONS

10.000 m<sup>2</sup>



INNOVATIVE SME



**MAFA**  
VEGETAL ECOBIOLOGY

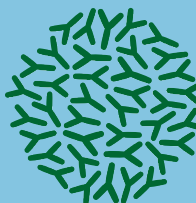


# MICROBIOLOGY DEPARTMENT



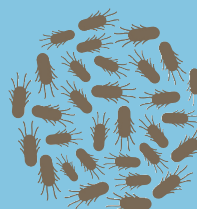
## Basic substances

They are natural substances suitable for phytosanitary use, they are approved by the European implementing regulation (EU) 462/2014.



## Botanical substances

Phytofortifying substances that strengthen crops, giving them greater resistance to pathogen attack.



## Microorganisms

Clean residue solutions for crop protection without use of chemical resources. MAFA works on the development of various products from different strains of saprobic fungi.

## COMPANY

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# MAFA ORIGIN. COMPANY

**Since its foundation in 1969, MAFA has been dedicated to finding answers to crop problems** through research and development of innovative agricultural solutions for plant nutrition and protection. We are specialists in the formulation of phytobiotics, biostimulants, fertilizers and soil and water regulators. At MAFA, we work with the aim of helping farmers, taking care of the health of the field and making crops more profitable and healthier.



# MAFA INTERNATIONALIZATION. COMPANY

**Our innovative mission materializes with the expansion of our products throughout the five continents.** Today we are present in Europe, Middle Eastern countries such as Egypt, Turkey, Iran, Jordan, United Arab Emirates, among others. In 2018 we have established a subsidiary in Mexico to cover the marketing needs of the American continent.



MAFA

# RESEARCH.

## DEPARTMENT

**The R&D department has an annual endowment that exceeds 3% of the company's turnover for the financing of research projects.** We have a technical team that aims to obtain the highest quality guarantees in the final product. We also collaborate with public and private research centers and officially recognized laboratories, as well as GLP (Good Laboratory Practice) approved centers.

We share the vision of becoming a company capable of implementing a more environmentally friendly agriculture and fully achieving sustainable agricultural development while conserving natural resources.



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# PHYTOBIOTICS



## Highly Technified Biopesticides

Natural phytosanitary  
solutions from botanical  
and mineral principles,  
basic substances and  
microorganisms



## Basictec®

**Technology** Ultrafiltered aqueous extract

### BASIC SUBSTANCE INSECTICIDE, ACARICIDE AND FUNGICIDE.

**Basic substance insecticide, acaricide and fungicide**

**based on *Urtica spp.* At 1.5% w/v (15gr/L liquid**

**extract of *Urtica spp.***

**Basictec** Formulated capable of controlling pests such as aphids and other insects, as well as diseases such as mildew. It is an ideal biodegradable organic product for the production of crops without residues.

Active substance: Extract filtered by maceration and mixture of two varieties of nettle.

Phytosanitary registration: SANTE11809



1L



5 L



#### Action

#### Insecticide, acaricide and fungicide

- Highly technical formulation, composed of basic substances tested for their phytosanitary effects.
- Coating power and adherence to the applied surface.
- It also allows to limit the treatments with synthetic phytosanitary products.
- Reduces environmental impact.

## Basictec SQ6®

**Technology** Polymer derived from chitin.

### PLANT DEFENSE MECHANISM ELICITOR.

**Elicitor of the defense mechanism of the plant**

**based on polymer Poly-D Glucosamine hydrolyzed**

**by enzymatic route to 6%.**

**Basictec SQ6** Formulated based on enzymatically hydrolyzed chitosan polymer. It acts as an inducer of crop resistance against fungi and bacteria. Indicated for the treatment of seeds, stone and pip fruit trees, vegetables, strawberries, potatoes, red fruits and cereals.

Active substance: Chitosan hydrochloride

Phytosanitary registration: SANCO12388.



1L



5 L



#### Action

#### Nematicide, fungicide, bactericide

- It acts as a plant stimulant, with an eliciting effect on resistance to pathogens.
- Its use allows to prevent the incidence of diseases.
- It also allows to limit the treatments with synthetic phytosanitary products.
- Reduces environmental impact.

**Biocarb<sup>®</sup>**

## EMULSION BASED ON CARBONATE POTASSIUM SALTS.

*Protects against fungal diseases*

**Biocarb** is a formulation based on biologically active organic acids that reinforce the capacity of defence and protection against powdery mildew, mildew, moulting and botrytis.

Its natural and biodegradable composition strongly reinforces plant self-defence, offering more resistance against pathogens. This fertilizer is applied by feeding foliar that has a tensioactive action that maintains and enhances the stability in the cuticle. It is also compatible with the auxiliary fauna and included in biological control programmes.



### Triple Action

**Osmotic pressure, biocarbonate / carbonate ion effect and pH.**

- Denatures the hydrolytic enzymes produced by phytopathogenic fungi and decrease the ineffectiveness capacity.
- Inhibits mycelia fungi growth producing the collapse in the spores.
- Dehydrate the mycelium of fungi.
- Acts to guarantee the prevention and phytopathogenic fungi control without leave residues.
- Does not generate any residue, it is applied without safety term.

**Citromazinc<sup>®</sup>**

## CITRIC EXTRACTS ENRICHED IN Mn AND Zn.

*Fertilizer with tensioactive action*

**Citromazinc** is a formulation based on vegetable extracts coming from essential citric oil (with high presence of terpens) and enriched in Mn and Zn. It is a biodegradable product, which acts improving the adherence and retention capacity of the spray droplets. As a result, a better interaction between phytosanitary or nutritional molecules with the cuticle foliar is achieved.



### DMV

- Pulverization is insensitive to an increase of VMD (Volumetric Median Diameter)
- Indicator characterized by homogenous distribution of droplet.

### Aim

- Reduces the surface tension of droplets facilitating its deformation and avoiding the rebound effect.
- Increases the retention capacity, improving the wettability of pulverization and the adhesion of water droplets to leaves and to woods.





## Maxifos<sup>®</sup> 40-20

### SELF-DEFENSE INDUCTOR

*Defence elicitors of the plant against fungi and bacteria*

**Maxifos 40-20** is a formulation based on potassium and phosphorus that is accumulated principally in weakened areas to recover and enhance the plant, stimulates self-defence mechanisms of root, necks, stems and fruits against pathogenic fungi.

The effectiveness of this product is due to its high concentrations that lead it to prevent the plant from infections by oomycetes fungi ((Peronospora, Phytophthora, Pythium, Plasmopara...)).



## Synerol<sup>®</sup>

### MIXTURE OF EMULSIFIED VEGETABLE OLEINS.

*Fertilizer with tensioactive, moisturizing and penetrating action*

**Synerol** is a formulation based on 100% vegetable, natural and biodegradable extracts enriched with potassium. It has a powerful surfactant, moisturizing and penetrating effect that improves the efficacy of phytosanitary treatments. It increase the wettability and reduces runoff.

Improves recovering and retention of microdrops over plants surface, increases the adherence to leaves, woods and fruits reducing the washing effects produced by metreological agents such as rain, dew and wind.



#### Microencapsulated

- Microencapsulation with the phytosanitary product with which it is combined.

#### Aim

- Getting a noticeable improvements in application yields.



## Oleo-soap k<sup>®</sup>

### POTASSIUM SOAP BASED ON SAPONIFIED FATTY ACIDS.

*It cleans the remains and molasses of fungi and insects*

**Oleo-soap k** is a liquid potassium soap obtained by saponification of fatty acids from plant origin. It performs a role in mitigation or cleaning of dirt remains caused by molasses secreted by insects and fungi, insect moulting, fruit stains, etc.

The decomposition of the formulation generates carbonate which acts as a fertilizer and a nutritional element.

#### Action

#### Potassium soap

- Cleans the surface leaves and other green parts of the plants.
- Removes the molasses produced by phytofagous insects and the sooty mold that is formed.
- Its cleaning effect favours the photosynthesis.
- Reinforces the treatments effect.



1L



5 L







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# BIOSTIMULANTS



## Biopromoters with Natural Active Ingredients

Designed to induce the necessary enzymatic and protein processes prior to the moments of maximum nutritional need. (Transplantation, sprouting, flowering, fruit setting and fruit development).





## Optimar®

### TRIPLE ACTION SERUM.

*Increase in cell size by induction  
of proteins synthesis*

**Optimar** is a bioactivator based on natural extracts coming from seaweed (*aschophyllum nodosum*). Its exclusive formulation from a combination of acids (alginic acid, folic acid and gluconic acid) forms a serum that highly favours and excites the cell division and elongation.



1L



5 L



20 L



#### Triple acid serum

- Alginic acid.
- AATC.
- Folic acid.

#### Aim

- Betaines precursor.
- Increases thiol groups level.
- Favours metabolic processes.

## Balance®

### AUXINIC-CYTOKININIC HORMONAL COMPLEX.

*Increases the quantity and quality of flowers*

**Balance** is a bioactivator, which has stimulating action. Its adaptogenic character induces specially the flowering by increasing the quantity and the quality of flowers.

Its formulation contains the active phytoingredients from natural origin that are enriched in nucleotides, amino acids and vitamins. These substances stimulate the cytokinesis (cell division) promoting the processes of cellular distension.



1L



5 L



20 L



#### Complexed phytoingredients

- Auxines.
- Cytokinines

#### Aim

- Cell lengthening
- Cell division

# Glucox<sup>®</sup>

## NEUTRAL CARBOHYDRATE POTASSIUM.

*High availability and sugars transport  
from leaves to fruits*

**Glucox** incorporates carbohydrate, neutral organic acids and liquid potassium.

The carbohydrates that its formulation confer are the biomolecules with high energetic and structural value. The potassium is also immediately available and is very rapidly absorbed into the crops. Glucox increases sugars fabrication and transport from the leaves to the fruits.



1L



5 L



20 L



### Neutral potassium salt

- Carbohydrate organic acid.

### Aim

- Activates the principles enzymes of glycolysis.

# Greencal<sup>®</sup>

## MACROALGAE EXTRACT.

*Formulation based on calcium that contains  
powerful biostimulant effect*

**Greencal** is a cream formulated from pure extract of algae with calcium that has a strong biostimulant effect. Designed to reduce the cell wall, improving the firmness and shelf life of fruits.

The extract of employed microalgae is obtained through low temperatures and cell rupture, extracting the natural active components present in algae *Ascophyllum nodosum* (alginates, mannitols, polysaccharides and polyphenols).



1L



5 L



20 L



### Pure extract of macroalgae

- Alginates.
- Mannitols.
- Polysaccharides.
- Polyphenols.





## Indumax®

### LIGNOSULFONIC COMPLEX OF ALUMINIUM.

*It acts such as self-defence inductor*

**Indumax** acts as an inductor in the physiologic processes necessary for the synthesis of compounds biologically actives by the plant. It induces the self-defence generating the proteins that have a great influence on photosynthesis, respiration and lignification.

Formulated from microelement in the form of constant molecular complexes, using lignosulfonic acid, aluminium lignosulfonate or carboxylic acid such as a complexant agent.



1L



5L



20 L



## Fortacell®

### COMPLEX OF CARBOHYDRATE CALCIUM ACETATE.

*It acts such as a cellular cementing agent*

**Fortacell** contribute to the formation of the structure of protopectine such as a cementing agent to keep the cells attached.

It also contains boron that is important for sugars circulation in the complex form "sugar-boron". This type of complex is able to traverse semipermeable cell membranes. The principle aim is to mobilize the hydrocarbonate reserve of leaves toward fructification point.



1L



5L



20 L



Lignosulfonic acid

Carboxylic acid

Aluminium lignosulfonate

- Systemic antioxidant action.
- Increases the phytoalexines and phenols level.

Calcium + Boron + Aminoacids

- Calcium acetate complex.
- Sugar-borate complex.

Aim

- Tissues hardening.
- Penetration to the membranes.

## Aminon<sup>®</sup> WSP

### PHYSIOLOGICAL BIOESTUMULANT

**80% Free aminoacids 13% Organic nitrogen**

**Aminon WSP** is a powder product that contain organic nitrogen from aminoacids which provides excellent nutritional and biostimulant properties.

Aminon WSP restores the natural balance of the plant, stimulating vegetative growth and chlorophyll function. Protects also the plant against adverse conditions in order to achieve the maximum capacity of production improving the growth, flowering and fructification, thus getting a greater development of fruit and an advance in ripening.



1L



5 Kg



## Mafacopper<sup>®</sup>

### TRIPLE ACTION SYSTEMIC COPPER.

**100% complexed by GA complexing agent**

**Mafacopper** acts as a potent plant protector against different diseases developed at high humidity and moderate temperatures. Such as caused by fungus and bacteria. For instance anthracnose, bark disease, sooty mold, gummosis or foot rot, grease stain, melanosis, scabies, etc.



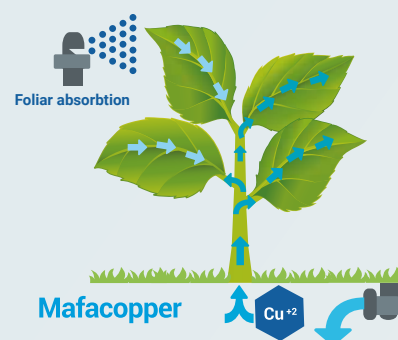
1L



5 L



20 L



#### Triple Action

- **Activation of exogenous elicitors.**  
Improvement of the plant's immune system.
- **Healing capacity.**  
Regenerates cell wall tissues.
- **Copper contribution.**  
Corrects symptoms caused by copper deficiency.





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# REGULATORS



## Soil and Water Conditioners

Formulations designed to provide better conditioning and handling of spray mixtures. As well as soil improvement solutions that help to solubilize the blocked elements.



## Fixertop pH<sup>®</sup>

### pH BUFFER.

*Its main function is to adjust the pH of treatment mixtures*

**Fixertop pH** is a pH buffer that its main function is to fix the pH of treatment mixtures in order to improve significantly the activity of foliar treatment of phytosanitary as well as of nutritional.

When the working water mixture is very alkaline, an ineffectiveness of used active substances is produced. With the contribution of Fixertop pH, we maintain the solution at an optimum pH level, to ensure a good assimilation of applied products. Based on potassium unlike other conventional pH regulator that are formulated from nitric and phosphoric acid.

- Thanks to its buffer effect, and whether a mixture is acidic or basic at the beginning and by applying the dose recommended, a pH of five is achieved.
- Regardless the original pH and after the addition of 0.1-0.15% P/P, this product can adjusted the pH to five approximately.
- Does not alter the pH of five at a higher dose contribution of fixertop pH, therefore it reinforce the powerful buffer of product at this pH.



## Maxiplant<sup>®</sup>


### SOIL IMPROVER WITH FULVIC ACIDS AND ORGANIC MATTER

*Fulvic liquid to improve the water and nutrient retention of soil*

**Maxiplant Fulvic** is a very dense liquid fertilizer composed of fulvic acids in soluble liquid form from residual vegetal extracts. Its use improves the various physiochemical characteristics of the soil, such as its structure and its cation exchange capacity, and favors microbial life. The plants develop a better root system and have more nutrients available in an assimilable form.

- Helps to create porous soil for increased microbial life at the rhizosphere.
- Increases the root sizes as side effect and shows biostimulant effect on roots.





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