



Where science serves nature



FARM SOLUTION CATALOGUE





Ph. Marco Piscicelli / Italy



*“To photograph: it is to put on the same line
of sight the head, the eye and the heart”*

(Henri Cartier-Bresson)

All the pictures with this symbol



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WHERE SCIENCE SERVES NATURE

A BROADER PERSPECTIVE

For years, Valagro has developed **innovative and effective solutions for plant nutrition and health** with passion, while respecting both people and the environment. The increasing demand for food and well-being for the world's population requires an effective response. Trusting in a return to nature is not a realistic alternative because it is not sufficient to meet global needs. On the other hand, relying excessively on chemistry is not a sustainable choice for the environment in the long term.

Aware of this challenge, VALAGRO believes it is possible to find a third way: to **meet the needs** of humankind using **fewer resources**, thanks to a new **conscience**, able to put science at the service of man through innovation and respect for nature.

Our challenge is to become a leading player in agricultural nutrition and biologicals - which includes biostimulants and biocontrol - by integrating and delivering advanced products and value-added tech-based services to farmers globally.





📷 Ph. Vittorio Bellocchio / Italy

The core challenge is to produce more with less. In the decades to come, the world's growers will need to cope with a harsher, less predictable climate and a growing scarcity of natural resources while meeting an ever increasing global demand for food.

Our vision is based on

Environmental sustainability

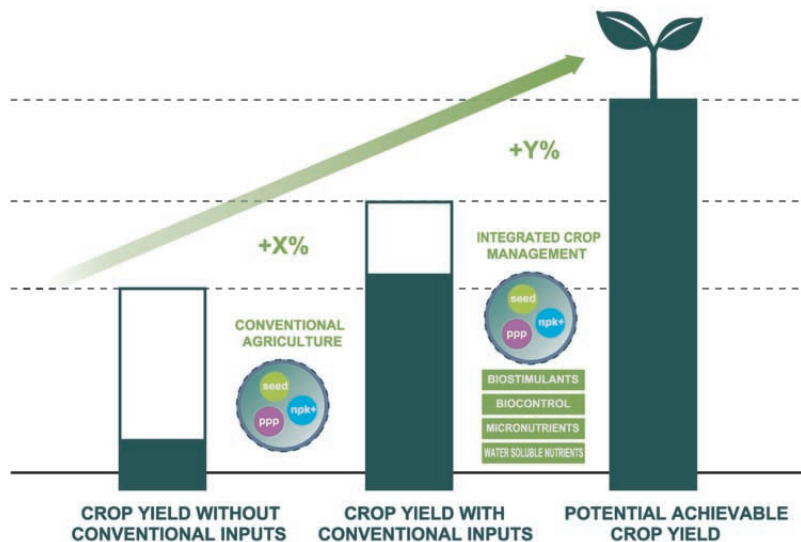
Ensure better harvests in terms of quality and quantity, using less soil, less water, fewer technical means. Overcome the challenge of providing more food for the world's needs by reducing the impact on the environment.

Centrality of the customer

Understand the needs of our customers and help them get the most out of their crops, so that they meet the demands and expectations of the market and thus have a higher return on investment.

Scientific innovation

Create an ever-broader and diversified range of solutions that combine efficiency and efficacy, sustainability and productivity.



Valagro global history



- Valagro was founded in Italy by **Ottorino La Rocca & Giuseppe Natale**.
- The first biostimulant product is launched.



- Acquisition of **Pacific Growers** wholesale business lines.
- **Geapower** is implemented to improve plant performance.



- New commercial subsidiary in **China**.



- The first commercial subsidiary is established in **Spain**.
- New commercial subsidiaries set up in **Greece, Mexico, Colombia and Brazil**.



- A site is purchased in **Brazil** for a new planned manufacturing facility.
- New commercial Subsidiary in **Turkey**.



- New production plant in **Brazil**.



- Acquisition of **Algea** in **Norway** and **Maxicrop** in **England**.
- New commercial subsidiary established in the **U.S.**
- Acquisition of **Samabiol** in **France**.



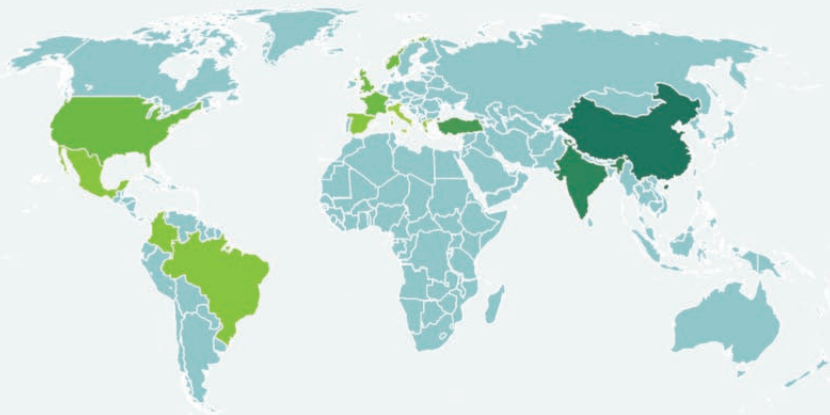
- Acquisition of the company **Sri Biotech Laboratories India**.



- Official launch of Valagro's project to Build a new plant in the **United States**.



With about 40 years of operational history, Valagro has pioneered the field of biostimulants.



12 Subsidiaries
around the world.

7 Key manufacturing
facilities.

80+ Countries with
distribution and
commercial presence.

600+ Employees
around the world.



GEAPOW TODAY FOR TOMORROW



GEAPOW

Using science to harness the potential of nature with an eye toward environmental sustainability: this is the principle on which GeaPower is based. It is the **exclusive technology** platform developed by Valagro in order to turn potential active ingredients into high quality nutrient solutions. Thanks to GeaPower, we can offer solutions based on sustainable innovation that, by using the **most modern technologies**, borrow valuable active ingredients from nature and return them to nature itself to obtain **healthier, richer, better harvests**.

Geopower certifies an approach to excellence based on four fundamental concepts:



In-depth knowledge of active ingredients and raw materials

- This enables Valagro to identify, characterize and preserve specific active ingredients that can achieve targeted physiological responses in plants.



Proprietary extraction processes

- Customized extraction processes help maintain the correct ratio of each ingredient in complex natural mixtures.



Advanced screening and investigation technologies

- Genomics, phenomics and other “omic” sciences allow Valagro to decipher the genetic and molecular triggers for specific physiological responses in plant systems.
- Screening of hundreds of samples per experiment.



Proven ability to provide commercially viable solutions

- Extensive experience with field experiments.
- The commercial function and research function are closely integrated.
- This allows Valagro to fast-track product candidates with the best chance of attaining commercial viability.



A NATURAL SYNERGY WITH OUR COSTUMERS



Alongside the distinctive offer of solutions constructed around a continuous commitment to research and development, Valagro regards customer focus as a value to be implemented to the full. As such, it has decided to expand its offer by including highly innovative and specialized services for its **Standard, Silver, Gold and Platinum customers**.

The Valagro Academy

Valagro Academy provides training sessions that involve the sales team at each Group subsidiary in order to **share information and updates** on the world of plant nutrition and biostimulants, along with specific sessions on products, local needs and the most appropriate solutions for them. In addition to the sales team of each subsidiary, Valagro customers can benefit from this **highly specialized knowledge** through **training sessions** based on specific needs and local experiences, and can be assisted in choosing the best solutions to be applied in the field.



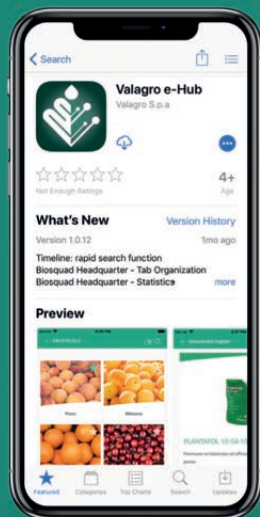
Be a part of Valagro's digital Community.
Explore the brand-new app e-Hub.
Join us here!

E-HUB THE BRAND NEW APP VALAGRO®

e-Hub is the brand-new app designed by Valagro allowing the organization's innovation and knowledge into the hands of all users worldwide. The application is the digital path to communicate with our partners, customers, distributors and all people interested in biostimulants, fertilizers and AG world.

Valagro shares the best practices and support improved decision quality.

- Easy and real-time access.
- Multi-tools Platform providing different features just in 1 App.
- Direct contact with Valagro people and knowledge share.
- Always with you on your mobile, laptop and tablet.



Valagro's path to drive up quality, sustainability and safety

From environmental protection

1

At the end of the 1990s, Valagro began its course for total high quality, starting with the environment and ISO 14001.

Today, there is a dedicated staff that uses its expertise for the protection of the environment and for the improvement of quality and safety, inside and outside the company boundaries.

To product quality

2

Involved since the foundation in pursuing the highest quality standards of products, in 2001 Valagro obtained ISO 9001 certification. Already structured and widely prepared for quality management, in a short time we implemented ISO 9001, predisposing the company also to the procedures for traceability.

Health and safety

3

Worker safety has always been at the center of corporate strategies: over the years accidents have declined from an average of 8.1 from 2001-2003 to 1.3 from 2013-2015. Furthermore, the attention to safety has been improved by the continuous training of all the staff with about 4000 hours of lessons for 160 courses and 1400 people involved to date.

Traceability

3

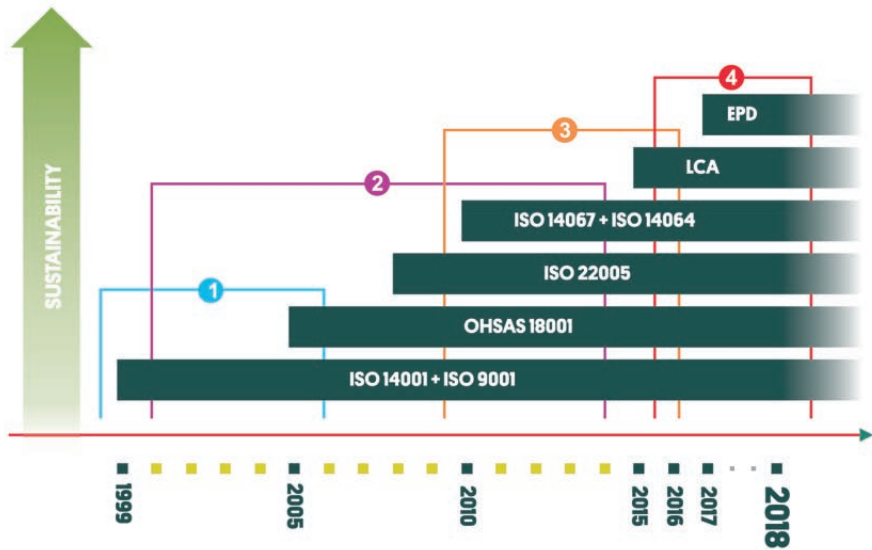
Always with a view to high, total quality, Valagro implements the tracing system to all its products. The role as a global partner in the challenges of modern agriculture has required this system to handle any difficulties in the cycle of the supply.

Sustainability, life cycle and climate change

4

Valagro has spent increasing attention to the life cycle concept in the assessment of environmental impact of its products. Today, in the development of new production lines, we consider not only environmental impacts generated in company boundaries, but also, those deriving from raw materials and by the usage of our products on field. After completing the study of the Carbon Footprint for all its products, in 2014-15 Valagro obtained ISO 14067 certification for 4 products and in 2015 obtained ISO 14064 (Corporate Carbon Footprint)

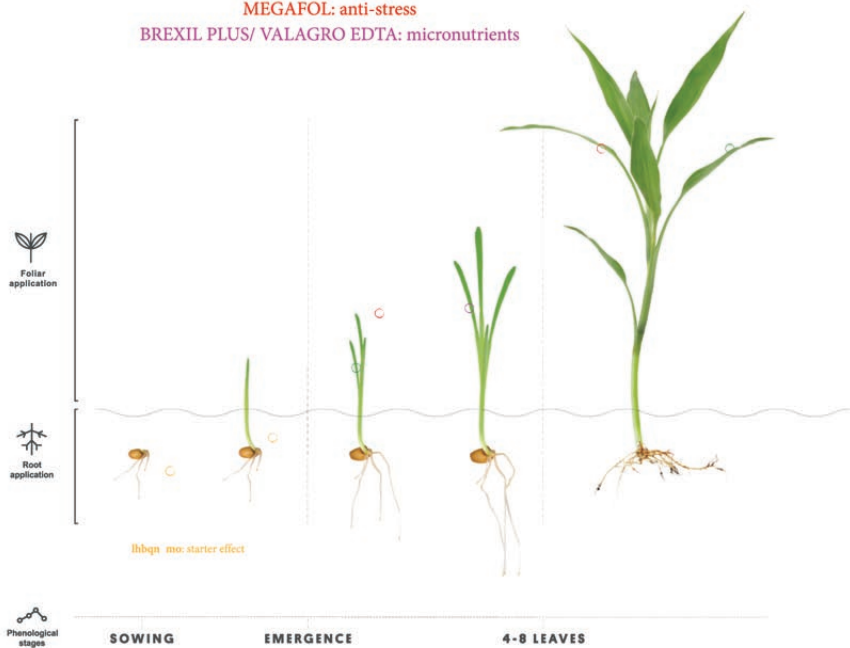
certification for emission from his headquarters. Today the company is engaged in the analysis of the life cycle of all its productions (Life Cycle Assessment) to arrive in the coming years to the EPD certification (Environmental Product Declaration) that defines and communicates to external stakeholders all the environmental performances of its products linked to the problem of climate change (CFP) and to environmental issues (reduction of the ozone layer, eutrophication of water, acid rain ... etc).



ROW CROP SOLUTIONS

MEGAFOL: anti-stress

BREXIL PLUS/ VALAGRO EDTA: micronutrients

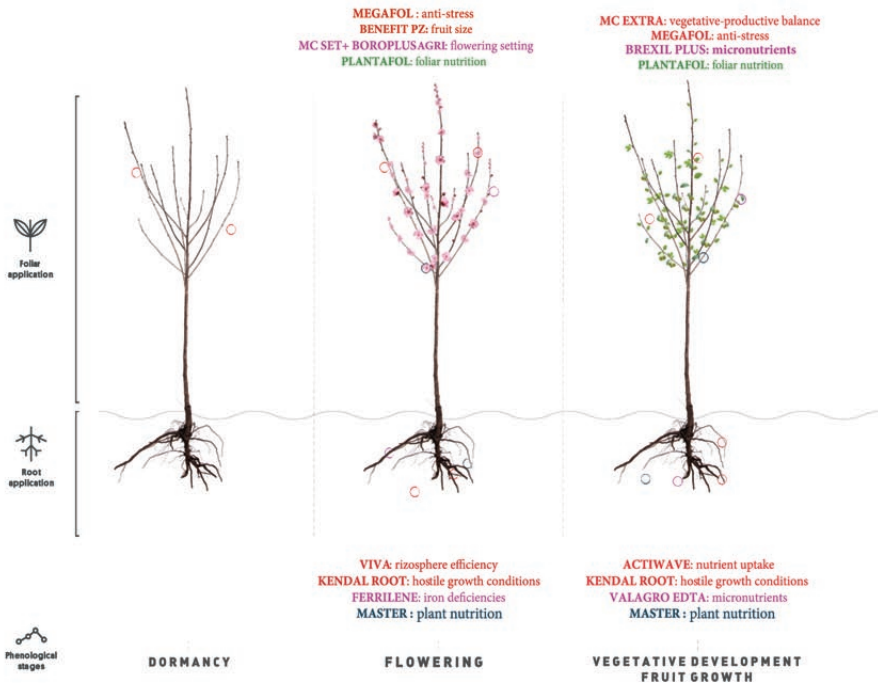




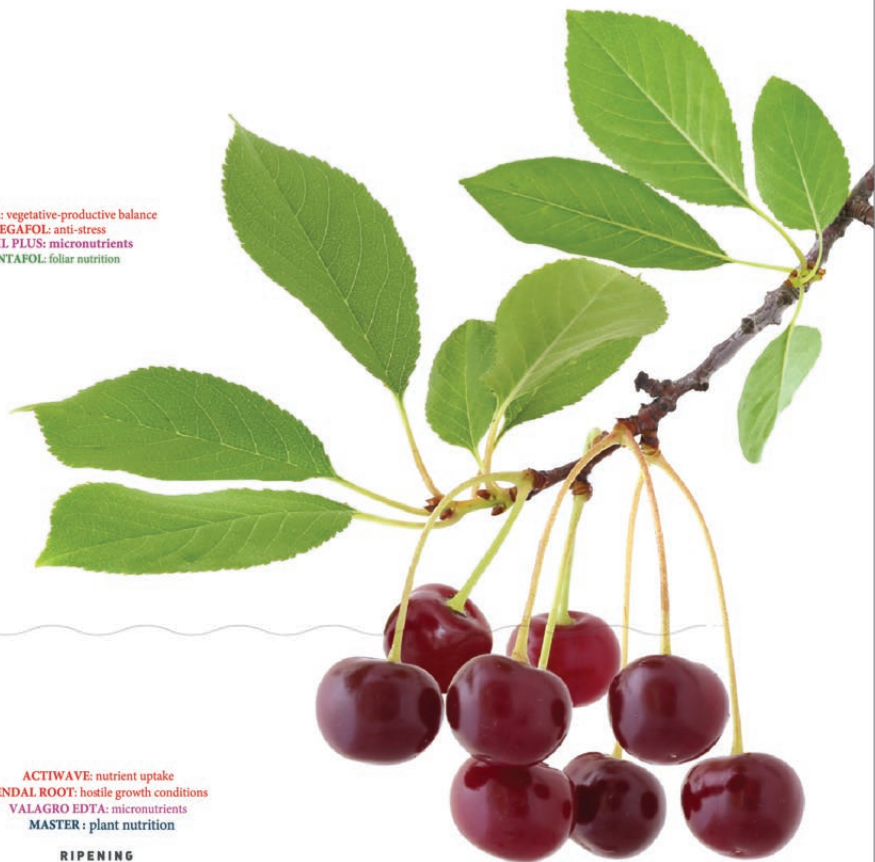
YIELDON: yield increase
OPIFOL MATURATION: foliar nutrition

PRE-FLOWERING

ORCHARD SOLUTIONS



MC EXTRA: vegetative-productive balance
MEGAFOL: anti-stress
BREXIL PLUS: micronutrients
PLANTAFOL: foliar nutrition



ACTIWAVE: nutrient uptake
KENDAL ROOT: hostile growth conditions
VALAGRO EDTA: micronutrients
MASTER: plant nutrition

RIPENING

VEGETABLE SOLUTIONS



MC EXTRA: Vegetative-productive balance
CALBIT C: calcium deficiencies
PLANTAFOL: foliar nutrition



KENDAL ROOT: hostile growth conditions for roots
ACTIWAVE: nutrient uptake
CALBIT C: calcium deficiencies
MASTER: plant nutrition

FRUIT DEVELOPMENT



MEGAFOL+SWEET: ripening
BREXIL PLUS: micronutrients
PLANTAFOL: foliar nutrition

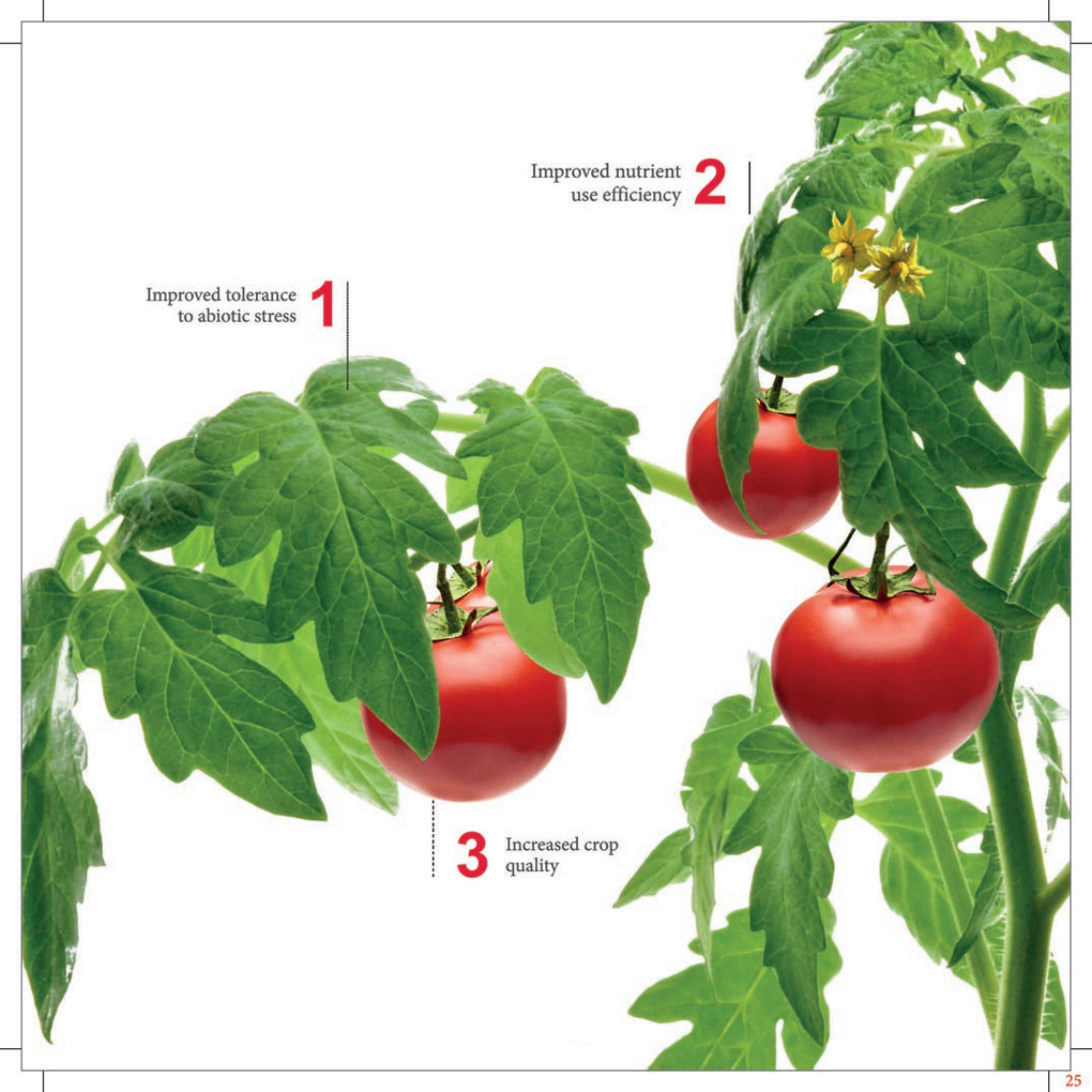
KENDAL ROOT: hostile growth conditions for roots
ACTIWAVE: nutrient uptake
CALBIT C: calcium deficiencies
MASTER: plant nutrition

FRUIT RIPENING



PLANT BIOSTIMULANTS

Our exclusive line of biostimulants gives farmers a line of products with active ingredients of purely natural origin, which stimulate the main physiological processes of the plant while promoting their growth and productivity.



Improved tolerance
to abiotic stress **1**

Improved nutrient
use efficiency **2**

3 Increased crop
quality



PLANT BIOSTIMULANTS

ACTIWAVE

increases the **absorption** of nutrients



Increases the plant's ability to absorb the nutritive elements in the soil. Optimizes mineral fertilization.

ACTIWAVE is extraordinarily unique and innovative for enhancing the absorption of nutrients in the soil and optimizes their use in the plant. The exclusive formula is protected by a European patent application.



SIZE CHART

1L

DIRECTION FOR USE

APPLICATION METHOD



Root application

ACTIWAVE FERTIGATION

CROP

ALL all crops

PERIOD OF APPLICATION

Applications during the crop cycle in presence of a well-developed root system

DOSE

2-3 L/acre



ACTIWAVE: phenomic evidence

Phenomic tests with ACTIWAVE were performed at Valagro @PHENOlabor Research Center by using the Lemnatec Scanalyzer 3D digital measurement station.

TARGET: to evaluate the improvement in the digital biomass and root uptake in limiting growth conditions like the presence of hard water, after treating plants with ACTIWAVE, compared to untreated test.

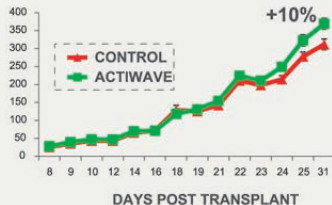
CROP: Tomato cv. Ikram;

TRIAL CONDITIONS: cylinders for phenomic analysis;

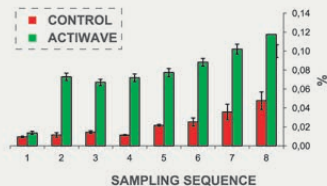
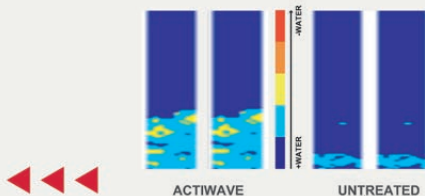
APPLICATIONS: 12 and 22 days post transplant.

RESULTS

1. RGB (Red-Green-Blue): Digital Biomass



2. NIR (Near Infrared): Water Uptake Index



Plants treated with Actiwave have shown an increment in the digital biomass (+10%) compared to the untreated test. NIR results highlight an improved root uptake in the plants treated with Actiwave, as suggested by the decrease of water level in the cylinders, with reference to the water colour scale.



PLANT BIOSTIMULANTS

BENEFIT PZ

increases and standardizes fruit size

Increases and standardizes fruit size into larger size classes without altering the consistency and shelf life of fruits.

BENEFIT PZ is a natural product developed for increased weight and greater uniformity of fruits. If applied from the start of flowering, stimulates cell division and distension therefore increases the number and dimension of cells in each individual fruit.



SIZE CHART

500mL / 1L

DIRECTION FOR USE

APPLICATION METHOD	CROP	PERIOD OF APPLICATION	DOSE
 Foliar application	 fruit crops	2-3 treatments every 5-7 days from first flowerings	2-3 ml per liter of water
	 vegetables (cucumber, zucchini, aubergine, tomato, pepper)	applications starting from first flowering every 7-10 days, repeat on subsequent flowering	2-3 ml per liter of water
	 melon, watermelon	weekly treatments starting from first flowerings	2-3 ml per liter of water



PLANT BIOSTIMULANTS

KENDAL ROOT

nourishes and strengthens the plant naturally



Ensures a correct development of root system in every hostile growth condition.

KENDAL ROOT works directly on the damaged root system, promoting a rapid vegetative restarting, an increased physical resistance of the roots and stimulating the growth of new ones.



SIZE CHART



DIRECTION FOR USE

APPLICATION
METHOD

CROP

PERIOD OF APPLICATION

Fertigation

ALL

all crops

1-2 Ltr/acre depending on the severity of root damage and frequency of application*

(Note: Dosage of applications could vary depending on nematode population in the soil)





Ph. Giampiero Sera / Australia





PLANT BIOSTIMULANTS

MC EXTRA

improves vegetative-productive balance

Based on *Ascophyllum nodosum* extracts.

MC EXTRA is a readily and totally soluble concentrate in microflakes formulation based on active biomolecules extracted from the algae *Ascophyllum nodosum*. The biologically active ingredients ensure a quantitative increase in production while maintaining optimal, balanced production.



SIZE CHART

■ 500g / 1Kg

DIRECTION FOR USE

APPLICATION METHOD



Foliar application

CROP

PERIOD OF APPLICATION

DOSE



orchards

2-3 applications during flowering until fruit set



1-3g per liter of water



horticulture

2-3 applications during early stages of development



1-3g per liter of water



strawberry

2 applications at vegetative development



1-3g per liter of water



ornamentals

2-3 applications during early stages of development



1-3g per liter of water



MC SET

stimulates **flowering** and **fruit setting**

Based on *Ascophyllum nodosum* extracts.

MC SET is a formulation based on active phytoingredients extracted from the algae *Ascophyllum nodosum*.

The complex of biomolecules within the product is enriched with a mineral fraction of Boron and Zinc which gives the product a considerable capacity to stimulate the flowering and fruit setting processes.



SIZE CHART

 500mL / 1L

DIRECTION FOR USE

APPLICATION METHOD



Foliar application

CROP



orchards



strawberry



horticulture

PERIOD OF APPLICATION

Flowering: 2 applications at 5-7 days interval

Pre-flowering

Pre-flowering: 2 applications at 7-10 days interval

DOSE

 3-5 ml per liter of water

 3-5 ml per liter of water

 3-5 ml per liter of water



MEGAFOL

anti-stress and growth activator

Promotes vegetative growth in normal conditions as well as during environmental stresses. Stimulates plant growth and improves effectiveness of treatments.








MEGAFOL is a natural biostimulant that contains a complex of selected vegetal extracts derived from special plants. MEGAFOL, applied regularly, promotes plant growth; when applied in case of abiotic stresses, its synergistic action of different active ingredients, allows the plants to quickly overcome the stress. MEGAFOL is also a carrier of products in foliar applications.



SIZE CHART

250mL / 1L  10L

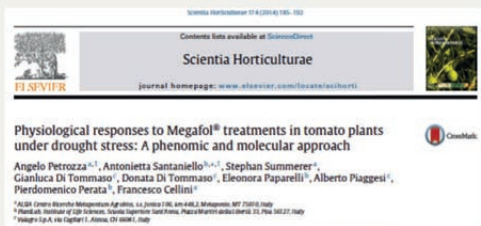
DIRECTION FOR USE

APPLICATION METHOD	CROP	PERIOD OF APPLICATION	DOSE
 Foliar application	 fruit crops	Pre-flowering, post-setting, fruit development and in all cases of plant growth stop	 2-3 ml per liter of water
	 vegetables	in open field and greenhouses after transplant every 10-15 days	 2-3 ml per liter of water
	 row crops	1-2 applications during growth cycle in case of abiotic stresses	 2-3 ml per liter of water



MEGAFOL: focus about anti-stress activity

Physiological responses to
MEGAFOL treatments in
tomato plants under drought
stress: a phenomic and
molecular approach.



The results showed that drought-stressed plants treated with MEGAFOL were healthier in terms of the biomass produced and chlorophyll fluorescence, thus highlighting the higher tolerance to stress of the treated plants.

The effects of MEGAFOL were also studied at a molecular level by analysing the induction of genes typically involved in drought stress responses. Our results demonstrate the efficacy of MEGAFOL to reduce drought-stress related damage in tomato plants.

Stress induction

MEGAFOL

1 application at 3 ml/l



Untreated



E periment performed on tomato plants (cv. IKRAM)
brought to the wilting point.



PLANT BIOSTIMULANTS

RADIFARM

root promoter reduces transplant stress

Ensures full attachment of transplanted or replanted plants.
Reduces the time to overcome post transplant stress.

RADIFARM was developed for applications during the transplant phase and/or in the early stages of development of various crops. It promotes the formation of rich and advanced root systems by extending the existing roots and issuing new absorbent roots.



SIZE CHART

 500mL

DIRECTION FOR USE

APPLICATION METHOD



Fertigation

CROP



vegetables with fertigation system



vegetables without fertigation system



fruit crops



ornamental and potted plants

PERIOD OF APPLICATION

At transplant and after 7 days

At transplant and after 7 days

At transplant, after 7 days or at the beginning of vegetative restarting

2-3 treatments every 7 days after transplant

DOSE

 0.5-1 Ltr per acre

 3-5 ml per liter of water

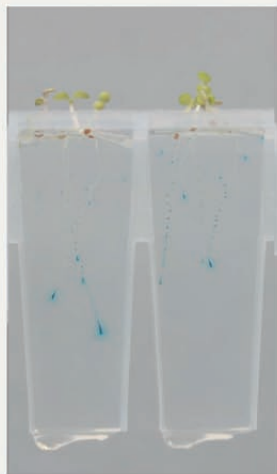
 3-5 ml per liter of water

 3-5 ml per liter of water



RADIFARM: microphenotyping test

Bioassay GUS on *Arabidopsis thaliana*. Using the GUS reporter method on *Arabidopsis* plants, we provided evidence that RADIFARM biomolecules modulate the concentration and localization of auxins which could account for the enhanced lateral root formation.



RADIFARM



UNREATED

Plant roots treated with RADIFARM (left picture) show moderate to intense blue coloration compared to untreated control (right). Blue color and its intensity identify the auxin signaling activation; higher perception of auxin signalling results in a more intense coloration. The blue distribution can be seen in tissues where signaling is activated.





PLANT BIOSTIMULANTS

SWEET

ripening promoter

Increases sugar concentration.

SWEET, is a biostimulant that promotes the sugar production and it accelerates the biochemical processes of ripening. To improve the effect of SWEET is recommended to use it mixed with MEGAFOL to take advantage of synergies between the two products.



SIZE CHART



DIRECTION FOR USE

APPLICATION METHOD



Foliar application

CROP



citrus



apple, pear, peach, apricot, cherry, plum, nectarin



wine grape, table grape



tomato, pepper, aubergine



melon, watermelon



strawberry



sugarbeet

PERIOD OF APPLICATION

at the end of fruit enlargement at the beginning of fruit ripening

pre-veraison; veraison

pre-veraison; veraison

pre-veraison application every 10-15 days

from fruit development every 10-15 days

from whitening of fruits every 8-10 days

2 treatments during root growth

DOSE

2-3 ml per liter of water

2-3 ml per liter of water

2-3 ml per liter of water

2-3 ml per liter of water

2-3 ml per liter of water

2-3 ml per liter of water

2-3 ml per liter of water



Ph. Amol Rangnathrao Munde / India





VIVA

improves the **rhizosphere efficiency** and the **vegetative productive balance**

Rhizosphere improver. It increases yield.

VIVA revitalizes and improves the structure and biochemical activity of the rhizosphere, promoting plant growth and ensuring the correct balance between the vegetative and productive part of the plant.



SIZE CHART

1L

DIRECTION FOR USE

APPLICATION METHOD	CROP	PERIOD OF APPLICATION	DOSE
 Fertigation	fruit crops	from vegetative regrowth until post-fruit setting with 2-3 applications	1-2 Ltr per acre
	strawberry	post-transplant applications, plant regrowth and post-fruit setting	1-2 Ltr per acre
	vegetables (tomato, courgette, melon, aubergine, capsicum, cucumber)	post-transplant applications, vegetative growth and post-fruit setting each 10-15 days	1-2 Ltr per acre
	flower crops	from post-transplant up to end of crop cycle each 15-20 days	1-2 Ltr per acre
	row crops	localized during sowing	1-2 Ltr per acre



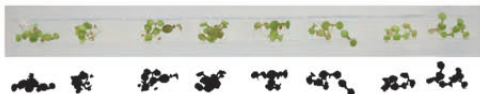
VIVA: microphenotyping test. A phenotyping platform for chemical biology.

The **microphenotyping** is a novel technique that allows detailed phenotyping of whole *Arabidopsis thaliana* seedlings to evaluate **plant response to phytoactive compounds**. This system is based in a novel seedling growth device called “Phytostrips”, that assembled with standard 96-well plates, making possible to conduct detailed studies of **changes in plant development, especially in root morphology and root system architecture**.

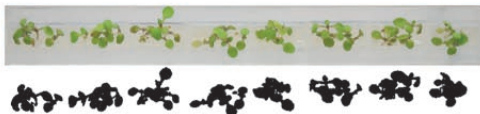
Phytostrips are filled with nutrient gel and seeds are sown on the surface. After seed germination, treatments are applied by adding the test compounds to the liquid nutrient medium that diffuse through the gel to be absorbed by the growing roots. Root growth can be followed by imaging through the transparent walls of phytostrips and shoot development by imaging from above. (Burrell *et al.* 2017)

VIVA : effect on biomass and projected leaf area

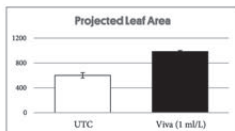
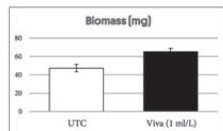
Untreated



VIVA (1ml/L)



VIVA specifically induce an **increase in biomass and projected leaf area** respectively of 38% and 64%, as highlighted in the above pictures and diagrams.





PLANT BIOSTIMULANTS

YIELDON

highest crop productivity, highest return for farmers

Valagro switches “ON” row crops profitability.

The most innovative technologies such as Genomics, Phenomics and Next Generation Sequencing are concentrated in the revolutionary YieldON: a biostimulant able to increase row crops productivity and return for farmers. More than 65% of the composition on a dry base, is characterized by a selection of extracts from three distinct families of plants and seaweeds enriched with trace elements Mn, Zn and Mo.



SIZE CHART

1L

DIRECTION FOR USE

APPLICATION
METHOD



Foliar
application

CROP

PERIOD OF APPLICATION

DOSE



wheat

1 application at flag leaf growth stage



2-3 ml
per liter of water



soybean

2 applications: the 1st at Vn/R1 growth stage, the 2nd at R3/R5 growth stage



2-3 ml
per liter of water



corn

1 application At V4-V6 growth stage



2-3 ml
per liter of water



rice

2 applications: the 1st at the beginning of booting, the 2nd at heading growth stage



2-3 ml
per liter of water



cotton, oil seed rape (canola)

2 applications. first mixed with pesticide/herbicide treatment, the 2nd at the beginning of owring



2-3 ml
per liter of water



YIELDON: the innovation way to get it

We carried out an integrated “omics & field-trials” approach to characterize the physiological effect of YieldON.

GENOMICS



PHENOMICS



NEXT GENERATION SEQUENCING



EXPERIMENTAL FIELD TRIALS



High efficiency phenotyping analysis: plant growth dynamics of soybean plants untreated and treated with YieldON



Several experimental trials demonstrate the effectiveness of the product in the field.

Brasilian case study

EXPERIMENTAL CENTERS	CROPS	PRODUCTIVITY INCREASED BY YIELDON VS STANDARD
RIO VERDE UNIVERSITY	SOYBEAN (VAR. 7338)	258 KG/HA
EXPERIMENTAL STATION	SOYBEAN (VAR. 7338)	480 KG/HA
EXPERIMENTAL STATION	SOYBEAN (VAR. IPRO)	276 KG/HA
RIO VERDE UNIVERSITY	CORN (VAR. 3646 PIONEER)	1404 KG/HA
CERES EXPERIMENTAL STATION	CORN (VAR. RB 9110 RPO)	448,8 KG/HA
CERES EXPERIMENTAL STATION COTTON (VAR.FIBERMAX 980 GLT)		444 KG/HA



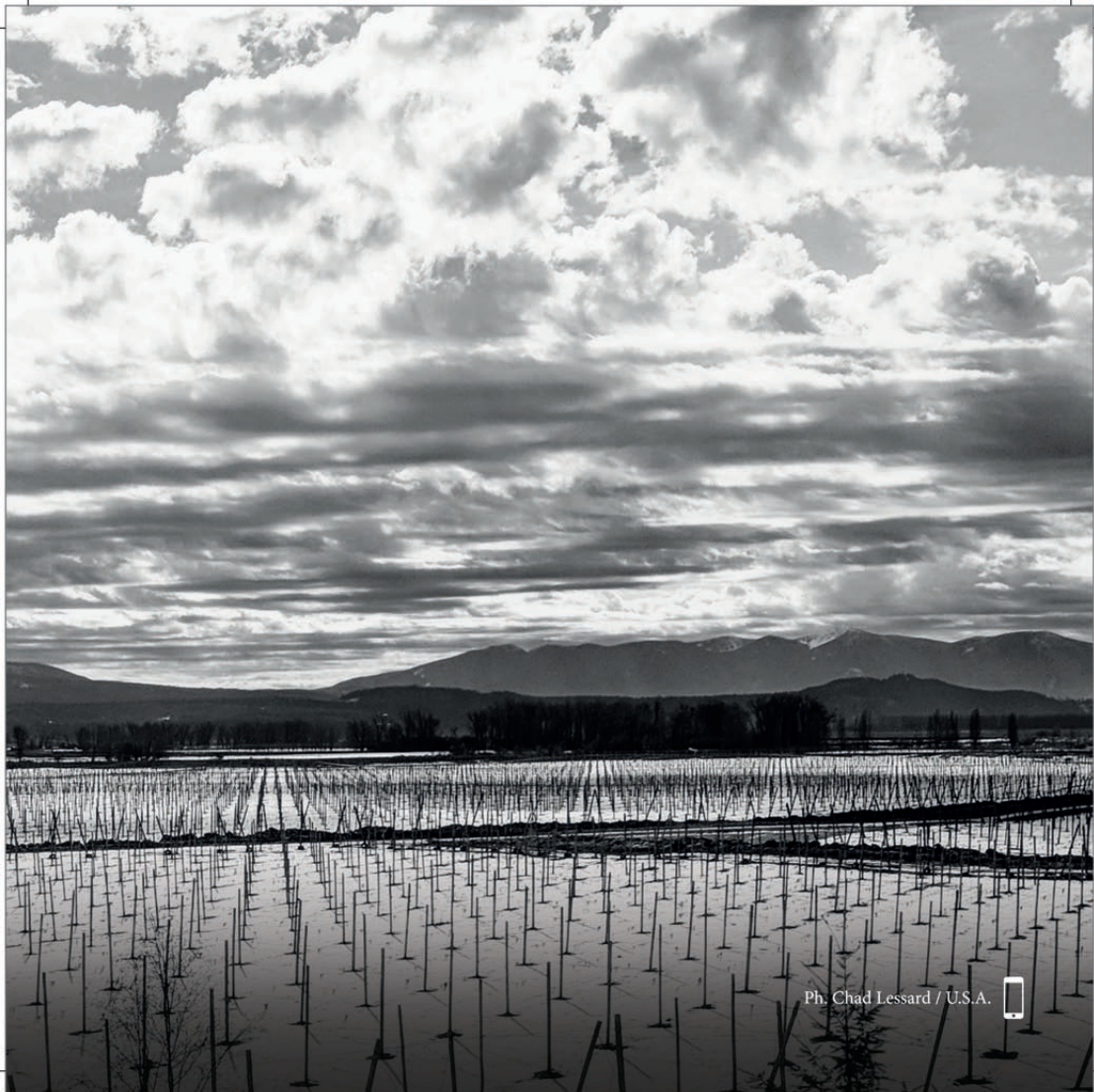
+9 sacs/ha* avg



Ø in Brazil the soybean yield is evaluated in sacs per hectare

Calculate with ROI calculator tool present in our Valagro Website www.valagro.com/en/yieldon/ the Return On Investment you can get thanks to YieldON





Ph. Chad Lessard / U.S.A.





BIOSTIMULANTS

HEIKO Rzone

white roots enhancer



Promoter of soil and plant activity at rhizosphere level, HEIKO Rzone enhances functioning of white roots in young plants, improving growth and development.




It is suitable for early stages in a wide range of crops. Flexible solution, HEIKO Rzone can be dissolved in water and applied in drench or through fertigation systems; where watering is not possible, it can be applied basal along with soil media. It is in powder form.



SIZE CHART

■ 50g / 100g

DIRECTION FOR USE

APPLICATION METHOD	CROP	PERIOD OF APPLICATION	DOSE
 soil and overhead fertigation, drench	ALL nursery all crops	to be mixed with soil media	 10 g of HEIKO Rzone per sq. feet of soil / medium
	ALL field application	Starting 20 days after sowing / transplanting. Dissolve in water then apply the appropriate volume of solution /acre depending on crop size. At least two applications at 2 weeks interval	 1 g per liter of water



BIOSTIMULANTS

HEIKO seed promoter of germination

HEIKO seed speeds up and makes emergence of seedlings uniform, increasing germination percentage.

HEIKO seed is a top quality delivery system of a microbial consortium. It provides fast and robust growth.



HEIKO seed is in powder form.



SIZE CHART

■ 300g

DIRECTION FOR USE

APPLICATION METHOD	CROP	PERIOD OF APPLICATION	DOSE
 soil and overhead fertigation, drench	 all crops	seed treatment at seeding when applicable or early during the crop cycle	 5 g/1 Kg seed  dissolve 300 g of HEIKO seed in 150 - 200 liters of water and apply uniformly on one acre crop



BIOSTIMULANTS

HEIKO root capsules for root and vegetative development



HEIKO root increases root growth and provides stronger and faster vegetative development

HEIKO root works through a novel microbial delivery system consisting of water soluble, biodegradable, hard gelatine capsules, for easy and accurate application. It is produced through multi-stage fermentation, made from consortia of microorganisms.



SIZE CHART

 500 capsules

DIRECTION FOR USE

APPLICATION METHOD



root application

CROP



Nursery & plantlets



Vegetables crops



big plants

PERIOD OF APPLICATION

at the time of sowing or transplanting

after transplanting, as needed

during vegetative development

DOSE



insert one capsule near to the seed or the root zone



2 - 3 capsules per plant (make a hole or holes around the plant and release the capsule into the hole, near to the root system)



Small fruits, bushes and orchards: use up to 10 caps per tree. For spray (drip irrigation, drench), dissolve HEIKO root in required quantity of water and use.



Ph. Shakil Saiyed / New Zealand





MICRONUTRIENTS

Valagro developed specific formulation based on micronutrients able to supply nutrients very fast and with low environmental impact. Micronutrients promote an healthy and strong plant growth.



Complete plant nutrition **1**

Prevent or cure
micronutrient deficiencies **2**

Improve crop quality **3**



MICRONUTRIENTS

BREXIL PLUS

cure and prevention of micronutrient deficiencies

Mixable with the most common pesticides, BREXIL is a line of micronutrients complexed with LSA (Ammonium Lignin Sulphonate) effective to prevent or cure micronutrient deficiency. BREXIL has an high complexing capacity and good affinity with the vegetal tissues. BREXIL guarantees a faster and safer absorption and translocation of micronutrients through the leaf surface.



SIZE CHART

■ 250g / 1Kg

DIRECTION FOR USE

APPLICATION METHOD



Foliar application

CROP



fruit crops



vegetables



row crops



ornamentals

PERIOD OF APPLICATION

2-3 applications

2-3 applications

1-2 applications

2-3 applications

DOSE

1-3 g per liter of water

1-3 g per liter of water

1-3 g per liter of water

1-3 g per liter of water



LSA: the benefits of the BREXIL LINE

The use of micronutrients based products made up of salts or chelates with synthetic agents can cause problems of limited penetration, leaching and reduced selectivity.

The fast and complete water solubility of BREXIL's microgranular formulation and the complexing action of LSA on metals, guarantee a faster and safer absorption of micronutrients through the leaf surface without leaving residues compared with product based on salts or chelates.

Benchmark MICRONUTRIENTS based products

SALTS (ZnSO ₄ , CaCl ₂)		Medium leaf penetration	Easily leached	Risk of phytotoxicity		
SALT + EDTA	physical edta mixture	It is not a true chelate	High risk of phytotoxicity	Difficult mixing with pesticides		
SALT + EDTA	edta chemical reaction	It is a true chelate	Medium leaf penetration efficiency	Risk of phytotoxicity		
SALT + AMINO ACIDS	physical mixture	It is only a mixture. It is not a chelated based products				
SALT + LSA	controlled chemical reaction	STABLE BREXIL[®] COMPLEX	Excellent penetration	Fast absorption	No risk of phytotoxicity	Mixable with the most common pesticides

Focus on LSA

LSA (Ammonium Lignin Sulphonate) is a complexing agent derived from lignin. Lignin in wood is mainly composed of combination of three basic elements (alcohols, also called monolignols that can be considered like "bricks"). Because lignin can differ according trees considered, the quality of extracted LSA is influenced by the properties of lignin. The ratio between the three elements in the lignin molecule is important in influencing LSA quality in complexing capacity and the release of micronutrients within the tissues.



Valagro's technology selects the most appropriate plant species and the most innovative extraction methods in order to obtain a lignin with an optimised ratio of the three elements (monolignols). This translates into a high complexing capacity of micronutrients and the natural selectivity and facility of penetration within the plant tissues which are a feature of the products in the BREXIL line.



MICRONUTRIENTS

BOROPLUS AGRI

cure and prevention of boron deficiencies

Effective in the prevention of Boron deficiency, BOROPLUS can be mixed with the more common foliar applied products. BOROPLUS contains boron complexed with ethanolamine and the liquid formulation allow perfect uniformity of distribution of the product, for fertigation or foliar application. BOROPLUS improves flowering and fruit setting optimizing the yield



SIZE CHART

500mL

DIRECTION FOR USE

APPLICATION METHOD



Foliar application



Fertigation

CROP

PERIOD OF APPLICATION

DOSE



fruit crops

2 applications at flowering and fruit setting

3-5 ml per liter of water



vegetables

application at flowering and fruit setting

3-5 ml per liter of water



row crops

during crop cycle

3-5 ml per liter of water



ornamentals

2-3 applications

3-5 ml per liter of water



fruit crops

during crop cycle

1-2 ltr per acre



Vegetables & flowers

during crop cycle

1-2 ltr per acre

CALBIT C

cure and prevention calcium deficiencies

CALBIT C promotes rapid translocation of calcium in fruits and flowers. Mixable with the most common pesticides CALBIT C contains calcium complexed with LSA, specific for the prevention and treatment of deficiencies on fruits and leaves. CALBIT C increases fruit firmness and, consequently, longer shelf life. CALBIT C can be used for fertigation as well as for foliar application.



SIZE CHART

1L

DIRECTION FOR USE

APPLICATION METHOD



Foliar application



Fertigation

CROP



fruit crops



vegetables



ornamentals
& leafy vegetables



ALL all crop

PERIOD OF APPLICATION

application every 7-10 days from flowering to fruit harvest

application every 7-10 days from flowering to fruit harvest

2-3 applications

during crop cycle

DOSE

2-3 ml per liter of water

2-3 ml per liter of water

2-3 ml per liter of water

2-3 Ltr per acre



MICRONUTRIENTS



FERRILENE

cure and prevention of iron deficiencies

FERRILENE is a complete range of Iron chelated products able to supply iron, for all crops, with high agronomic efficiency in all types of soils. FERRILENE line contains iron chelated with EDDHSA and/or EDDHA, in soluble microgranules, that are produced directly in Valagro plant according to the highest qualitative standard of production.



SIZE CHART

■ 500g

DIRECTION FOR USE

APPLICATION
METHOD



Fertigation

FERRILENE

strawberry
kg/acre

citrus
kg/acre

table grape
kg/acre

vegetables and
row crops
kg/acre

flower crops
kg/acre

potted plants
kg/acre

0.5-1 kg per acre

Note: Dosage of application could vary from soil to soil



MICRONUTRIENTS

VALAGRO EDTA

cure and prevention micronutrients deficiencies

VALAGRO EDTA is a complete range of single or blend trace elements chelated with EDTA. The presence of trace elements in chelated form and the soluble microgranule formulas make VALAGRO® EDTA specific products for the prevention and the cure of micronutrient deficiencies. VALAGRO EDTA can be used with foliar application or fertigation.



SIZE CHART

■ 250g / 500g

DIRECTION FOR USE

APPLICATION METHOD



Foliar application



Root application

CROP



grapes, kiwifruit, citrus, pome fruit



stone fruit, vegetables (tomato, pepper, melon and watermelon)



all crops



all crops

PERIOD OF APPLICATION

applications every 10-15 days starting from the first appearance of micro deficiencies

applications every 10-15 days starting from the first appearance of micro deficiencies

preventive applications

curative applications

DOSE

0.5-1 g per liter of water

0.5-1 g per liter of water

3-5 g per liter of water

3-5 g per liter of water

Note: Product range available in India are VALAGRO EDTA Zn and VALAGRO EDTA Fe



WATER SOLUBLE NUTRITION

The WSN lines, specific for both fertigation and foliar application, offer a wide range of solutions, consisting of microcrystalline NPK formulations. These fertilizers are completed with microelements in chelated form and characterized of total and immediate solubility.

Guaranteed balanced
crop nutrition

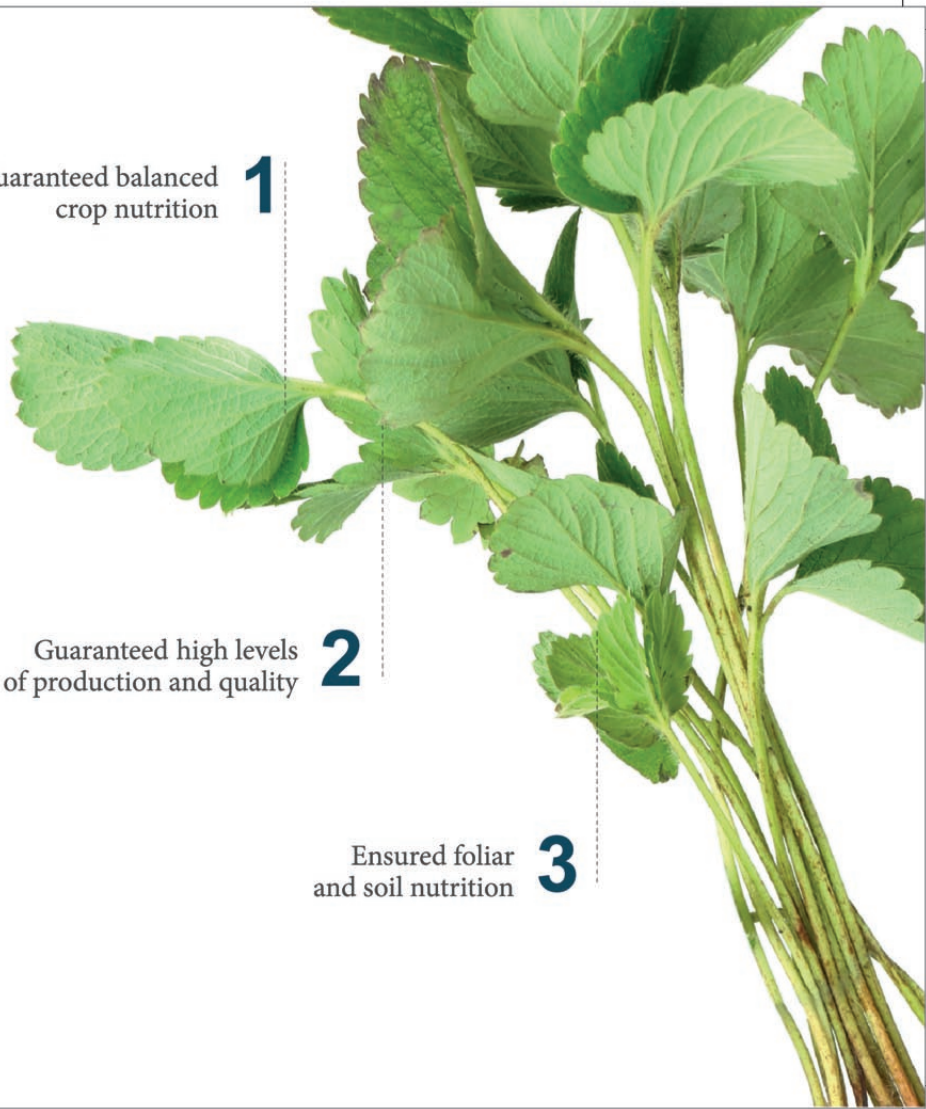
1

Guaranteed high levels
of production and quality

2

Ensured foliar
and soil nutrition

3



FERTIGATION

The WSN lines, specific for fertigation application, offer a wide range of solutions for different nutritional needs and phenological phases, consisting of microcrystalline NPK formulations.

WATER SOLUBLE NUTRITION

MASTER LINE

nourishes and supports
the plant growth

Sodium and Chlorine free. Completed with chelated trace elements (EDTA).

MASTER LINE is a complete range of water-soluble microcrystalline fertigators that are totally and immediately soluble, specific for fertigation systems. The different formulations have been designed to meet the nutritional needs of all crops, in each crop phase and for each type of soil, ensuring improved yields and quality.



SIZE CHART

10Kg 25Kg

20.20.20








13.40.13

15.5.30

00.37.37

MASTER LINE

DIRECTION FOR USE

APPLICATION METHOD	CROP	PERIOD OF APPLICATION	DOSE
Fertigation 	 fruit crops	During the crop cycle	 3-5 kg per acre
	 vegetable crops	During the crop cycle	 3-5 kg per acre
	 flowers	During the crop cycle	 3-5 kg per acre

Note: for frequency of application contact VALAGRO technician. 10kg pack will be available for specific grades only.

FOLIAR

The WSN lines, specific for foliar application, offer a wide range of solutions for different nutritional needs and phenological phases, consisting of microcrystalline NPK formulations.

WATER SOLUBLE NUTRITION

PLANTAFOL LINE

foliar npk supplements with microelements chelates

Elevated purity and solubility. Enriched with trace elements chelated with EDTA. Suitable for any nutritional requirement.

PLANTAFOL LINE consists of foliar fertilizers based on high solubility and rapid and complete absorption within the leaves. All products contain trace elements chelated with EDTA and can be mixed with the most common pesticides. The PLANTAFOL LINE offers several solutions based on different levels of NPK content.



SIZE CHART

■ 1Kg / 5Kg

30.10.10

10.54.10

5.15.45

20.20.20

PLANTAFOL LINE

DIRECTION FOR USE

APPLICATION METHOD



Foliar application

CROP



fruit crops



vegetable crops



flowers

PERIOD OF APPLICATION

during the crop cycle

during the crop cycle

during the crop cycle

DOSE

3-5 g per liter of water

3-5 g per liter of water

3-5 g per liter of water

Note: for frequency of application contact VALAGRO technician. 5kg pack will be available for specific grades only.

WATER SOLUBLE NUTRITION

OPIFOL

ensures an higher crop
yield and better grain
quality

Nourishes crops and improves the production quality and quantity.

OPIFOL is a new highly soluble foliar fertilizer line, part of a complete solution together with Yeldon, specific for row crops with rapid uptake into plant leaves. OPIFOL LINE contains a combination of macro and micronutrients to maximize crop yield and quality.



SIZE CHART

1Kg

DIRECTION FOR USE

APPLICATION
METHOD



Foliar
application

PRODUCT

OPIFOL MATURATION

CROP



row crops

PERIOD OF APPLICATION

Maturation stage

DOSE

4-5 g
per liter of water



Ph. Vitor Hugo / Brazil 



BIOFERTILIZERS



BIOFERTILIZERS

HYORO MY⁺

Endo-mycorrhizal biofertilizer

HYORO MY+ is the Valagro solution for the supplement of mycorrhizae to soils

HYORO MY+ , enriched formulation based on endomycorrhizae, will form kilometres of filaments per soil litre that will work as an extended root system to:

- enhance water and nutrient uptake;
- optimize irrigation efficiency;
- optimize nutrients uptake;
- Increase drought and other abiotic stress tolerance.



SIZE CHART

■ 4Kg

DIRECTION FOR USE

APPLICATION METHOD	CROP	PERIOD OF APPLICATION	DOSE
 soil application	row crops	early during crop cycle	● Mix 4 Kg of HYORO MY+ with any moist soil / FYM and broadcast on 1 acre
	Horticultural crops	early during crop cycle	● Mix 4 Kg of HYORO MY+ with any moist soil / FYM and apply at the base of individual plant



BIOFERTILIZERS

HYORO Plus G

PHOSPHOROUS SOLUBILISING BACTERIAL BIOFERTILIZER

HYORO Plus G is the Valagro solution for the sustainable supplement of Phosphorous to plant. HYORO Plus G, high performance Phosphorous solubiliser, is an effective component of a sustainable approach to P-nutrition supported by microorganisms, for all agricultural crops. HYORO Plus G is in granular form.



SIZE CHART

 4Kg / 24Kg

DIRECTION FOR USE

APPLICATION METHOD



soil application

CROP

ALL

all crops (arable & industrial crops, fruits & vegetables, nuts & plantation crops, ornamentals)

PERIOD OF APPLICATION

Before seed sowing, after seed sowing, during transplantation

DOSE

 Apply 4-8 Kg / acre



BIOFERTILIZERS

HYORO P_{Plus} L

PHOSPHOROUS SOLUBILISING BACTERIAL BIOFERTILIZER



HYORO Plus L is a Valagro solution for the sustainable supplement of Phosphorous to plant.

HYORO Plus L is a high-performance Phosphorus Solubilising Bio-fertiliser, in liquid formulation.

HYORO PLUS L has the ability to solubilise phosphorous which is unavailable in soil to up-take. It is a tool for improving phosphate fertility in an eco-friendly, effective way.



SIZE CHART

1L

DIRECTION FOR USE

APPLICATION METHOD



soil application

CROP

ALL

all crops (arable & industrial crops, fruits & vegetables, nuts & plantation crops, ornamentals)

PERIOD OF APPLICATION

Before seed sowing, after seed sowing, during transplantation, early during crop cycle

DOSE

Apply 250 - 500 ml per acre by fertigation



BIOCONTROL



BIOCONTROL

FLOREZEN

Pseudomonas fluorescens 1.00% W.P.








FLOREZEN, the Valagro solution against root-knot nematodes, bacterial soft rots and wilt FLOREZEN is an eco-friendly biological pesticide containing indigenous isolate of bacteria, *Pseudomonas fluorescens*. It is effective against wide variety of seed & soil borne plant pathogenic fungi, bacteria & nematodes.



SIZE CHART

■ 500g

DIRECTION FOR USE

APPLICATION METHOD	CROP	PERIOD OF APPLICATION	DOSE
 seed treatment, seed-bed treatment and through enrichment of Farm Yard Manure (FYM)	 Carrot / Root-knot nematode & Bacterial soft rot	- Seed treatment - Soil application before planting.	 - 20 g / kg seed - 5 MT/ha of FYM*
	 Okra / Root-knot nematode, Wilt	- Seed treatment - Soil application before planting.	 - 20 g / kg seed - 5 MT/ha of FYM*
	 Tomato & Brinjal / Root-knot nematode & bacterial wilt	- Seed treatment - Seed-bed treatment - Soil application before transplanting.	 - 20 g / kg seed - 50 g / sq.mt - 5 MT/ha of FYM*

*Enrichment of Farm Yard Manure (FYM): add 1 kg of FLOREZEN to 1 MT of FYM. Leave under shade for a period of 15 days, maintaining optimum moisture and in between mix thoroughly at an interval of 5 days for proper enrichment of FYM with this bioagent.



Ph. Saul Humberto Borbolla Garate / Mexico





BIOCONTROL



TRICOZEN

Trichoderma harzianum

1.00% W.P.

TRICOZEN, the Valagro solution against root-knot nematodes and wilt causing fungi






TRICOZEN is a bio-pesticide containing indigenous isolate of nematophagous fungus Trichoderma harzianum. It is a selective bio-agent which effectively controls following soil borne nematodes and wilt causing fungi on crops mentioned below.



SIZE CHART

■ 1Kg

DIRECTION FOR USE

APPLICATION METHOD	CROP	PERIOD OF APPLICATION	DOSE
 seed treatment, nursery/ seed-bed treatment and through enrichment of Farm Yard Manure (FYM)	 Tomato / Root-knot nematode & wilt causing fungi	- Seed treatment - Treatment of the nursery beds - Treatment of soil before transplanting	- 20 g / kg seed - 50 g/sq. m. - 5 MT/ha of FYM*
	 Okra / Root-knot nematode & wilt causing fungi	- Seed treatment - Treatment of soil before transplanting	- 20 g / kg seed - 5 MT/ha of FYM*
	 Carrot / Root-knot nematode & wilt causing fungi	- Seed treatment - Treatment of soil before transplanting	- 20 g / kg seed - 5 MT/ha of FYM*
	 Brinjal / Root-knot nematode & wilt causing fungi	- Seed treatment - Treatment of the nursery beds - Treatment of soil before transplanting	- 20 g / kg seed - 50 g/sq. m. - 5 MT/ha of FYM*

*Enrichment of Farm Yard Manure (FYM): add 1 kg of TRICOZEN to 1 MT of FYM. Leave under shade for a period of 15 days, maintaining optimum moisture and in between mix thoroughly at an interval of 5 days for proper enrichment of FYM with this bio-agent.



OTHER PRODUCTS

**A careful choice of complementary products
and fertilisers to provide a complete and
effective solutions for all crop needs.**



OTHER PRODUCTS

CONTROL DMP

foliar uptake improver



The pH value achieved can easily be determined by comparing the colour of the solution with that of the colorimetric scale indicated on the label. Control DMP reduces the surface tension facilitating penetration of the solution into the plants. Control DMP acts as a dispersant and helps make compatible mixtures of more products.

SIZE CHART

1L

DIRECTION FOR USE

APPLICATION METHOD



Foliar application

CROP



all crops

DOSE

1-3 ml per liter of water

Note: Dosage of application could vary depending on the pH level of water.



Ph. Ana Paula Neto / Brazil

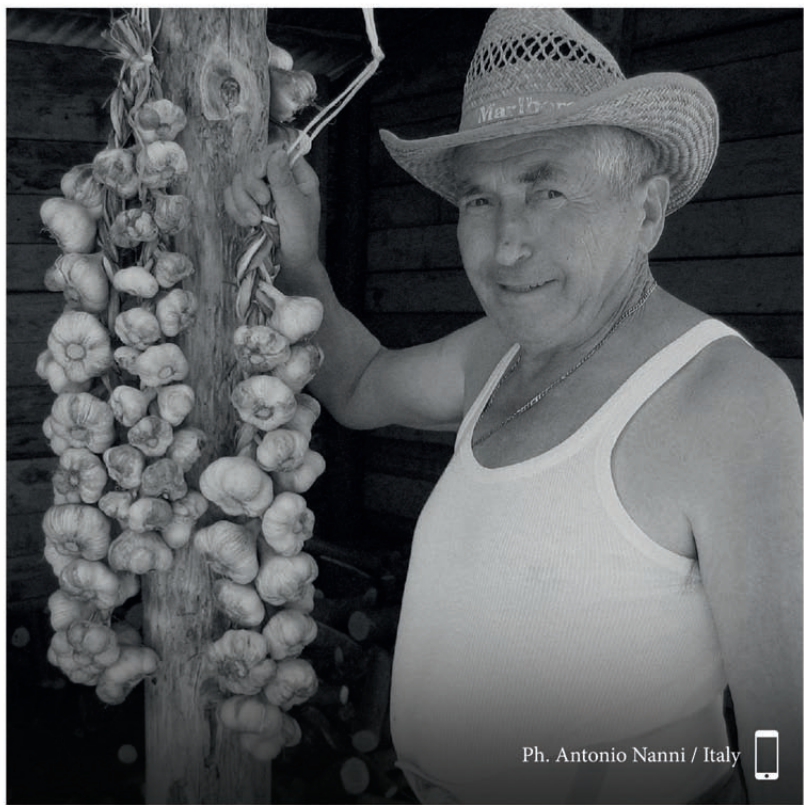




Ph. Giuseppe Presti / Italy



A Father:
sows with love
nurtures with care
harvests with pride



Ph. Antonio Nanni / Italy





for Contact:

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