



2024



AgroSolutions

A high-speed photograph of a water droplet hitting a surface, creating a series of concentric ripples. The droplet is captured mid-fall, with a small one above it and a larger one below it that is just about to hit. The water is a deep blue, and the background is a warm, golden-yellow gradient.

# CATALOG BIOSTIMULATION

# THE ILSA PROPOSAL

## NUTRITION CATALOG

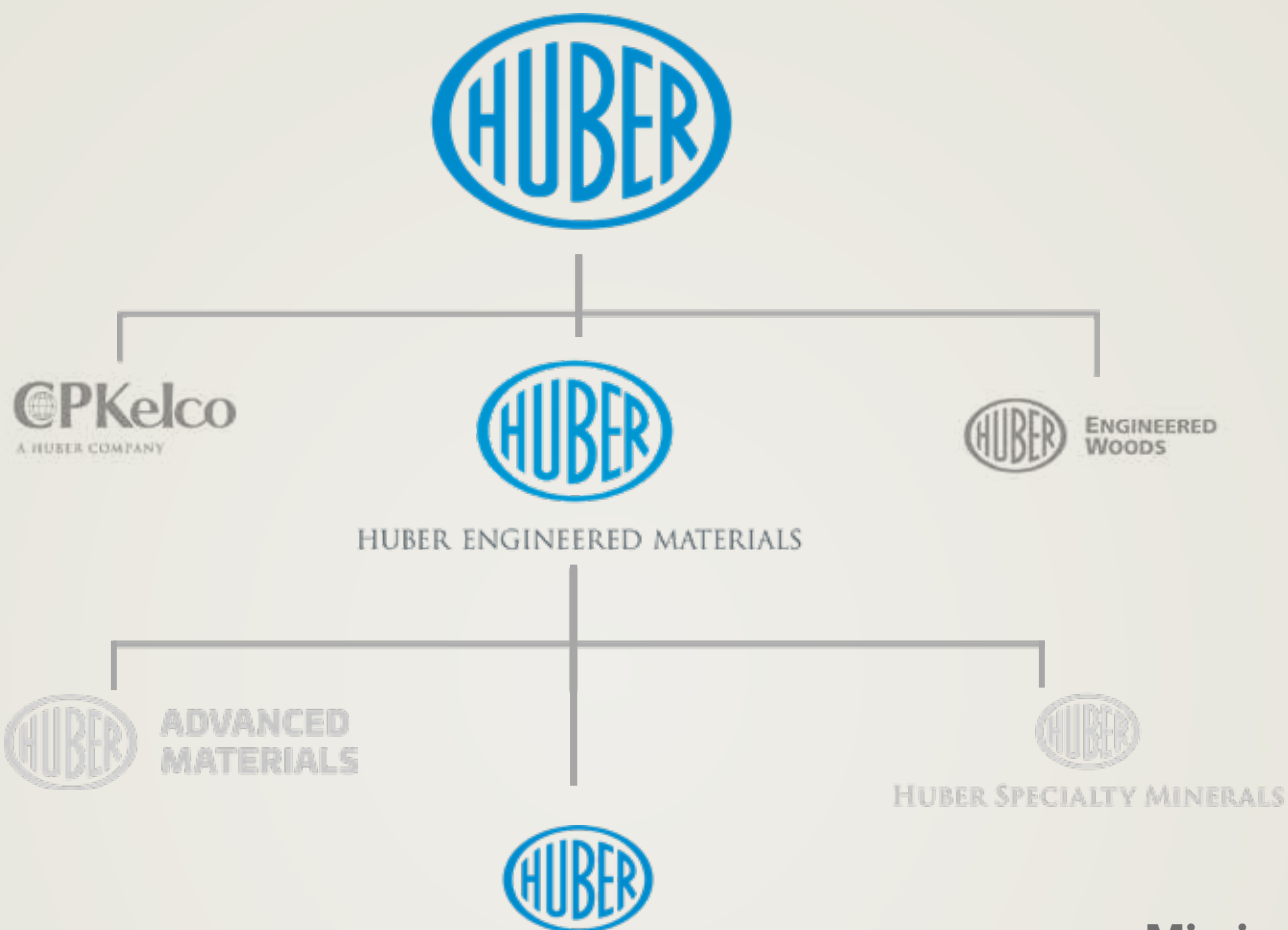
*contains “intelligent” products able to modulate the release of nitrogen in sync with plant demand and in line with the new concepts of sustainable agriculture.*



## BIOSTIMULATION CATALOG

*contains biostimulants and nutritional specialities with a specific action, based on molecules and natural substances able to act on plant primary and secondary metabolism, so responding to some of the plant's needs.*





## Vision

To become one of the world leaders in sustainable formulation of high-performance specialty crop products.

## AgroSolutions

## Mission

To serve farmers and our distributors as a trusted partner in achieving exceptional yields.



# Huber Group Principles

As we continue to transform and improve products used around the world, the Huber Principles remain the foundation of our employees' business conduct. These are the core values that guide us in providing customer service, helping each other, and ensuring that the company remains a positive reality for future generations.





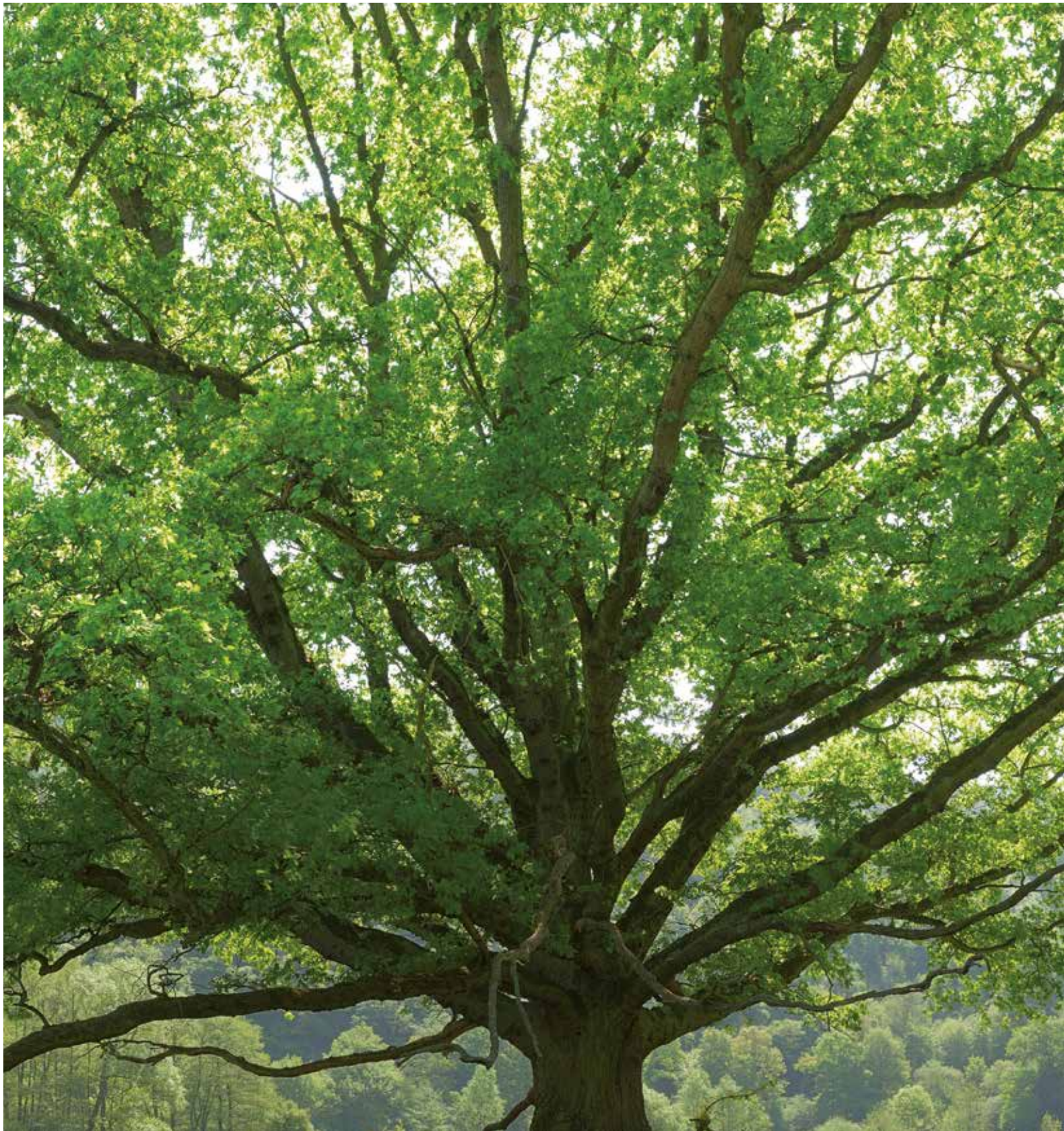
# ILSA

*What we are is due to the effort, competence and passion of many people working to a common goal:*

***“make ILSA a solid and credible company”.***

*It is the result of continuous research, constant process and product innovation, respect, care and attention towards customers. Our solidity, credibility and will of continuous improvement allow us to compete worldwide and offer our customers real chances of economic and professional growth.*







# PRODUCTS ALLOWED IN ORGANIC FARMING BY BENEFIT



PLANT BIOMASS



SIZE

PAG.40



UNIFORMITY IN COLOUR AND RIPENING



FLOWERING AND FRUIT SET

PAG.44



PHOTOSYNTHESIS AND VEGETATIVE DEVELOPMENT

PAG.46



DEGREES BRIX



ROOTING

PAG.50



SHELF-LIFE

PAG.52

## STRESS



ROT AND CRACKINGS



TOLERANCE TO HEAT AND WATER STRESS

PAG.56



SALINITY TOLERANCE

PAG.58

## MULTIPURPOSE








MULTIFUNCTIONAL PRODUCTS

PAG.60

# PRODUCTS ALLOWED IN ORGANIC FARMING

PAG. 62

ILSAFITOCELL	pag. 64	
ILSASTIMSET	pag. 66	
SOYBILS@	pag. 68	

ILSAGIRMA	pag. 70	
ILSAVEGETUS	pag. 72	





ILSALEVA	pag. 74	
ILSAFITOCELL	pag. 64	

ILSAORGAMIT-R	pag. 76	
---------------	---------	--

ILSADURADA	pag. 78	
------------	---------	---

ILSATERMIKO	pag. 80	
-------------	---------	--

ILSASTIMSET	pag. 66	
-------------	---------	---

ILSAC-ON	pag. 82	
ILSASTIM+	pag. 84	
ILSAPOLICOS	pag. 86	
ILSAMIN N90	pag. 88	
MACRILS@	pag. 90	
SPLINTER NEW	pag. 92	



# PRODUCTS FOR SUSTAINABLE AND CONVENTIONAL FARMING BY BENEFIT



## QUALITY

PLANT BIOMASS

PAG.38



SIZE

PAG.40



UNIFORMITY IN COLOUR AND RIPENING

PAG.42



FLOWERING AND FRUIT SET

PHOTOSYNTHESIS AND VEGETATIVE DEVELOPMENT

PAG.46



DEGREES BRIX

PAG.48



ROOTING

PAG.50



SHELF-LIFE

## STRESS

ROT AND CRACKINGS

PAG.54



TOLERANCE TO HEAT AND WATER STRESS





SALINITY TOLERANCE




## MULTIPURPOSE

MULTIFUNCTIONAL PRODUCTS

PRODUCTS FOR SUSTAINABLE AND  
CONVENTIONAL FARMING

PAG. 94

ILSARODDER	pag. 96	
ILSAFORMA	pag. 98	
ILSASHAPE	pag. 100	
ILSAKOLORADO	pag. 102	

ILSAVIVIDA	pag. 104	
ILSAGRADER	pag. 106	
ILSADEEPPDOWN	pag. 108	
ILSARODDER	pag. 96	

ILSAINTEGER	pag. 110	
ILSANOBREAK	pag. 112	



# INDEX

OUR HISTORY	12
ILSA PRODUCTION PLANTS	14
ICON EXPLANATION	15
COMMUNICATION	16
ILSA'S PRODUCTION PROCESSES	22
THE LIQUID FERTILISER PROCESS: FCEH®	24
THE PLANT EXTRACT PROCESS: SFE®	26
VIRIDEM® PROGRAMME	28
FROM VIRIDEM® THE EXCELLENCE OF PLANT-DERIVED PRODUCTS WITH A SPECIFIC ACTION	30
THE ILSA MANIFESTO ON SUSTAINABILITY	34
ORGANIC CERTIFICATIONS	35
ILSA IS BRILLIANT COMPANY	36
<b>PRODUCTS ALLOWED IN ORGANIC FARMING</b>	<b>62</b>
<b>PRODUCTS FOR SUSTAINABLE AND CONVENTIONAL FARMING</b>	<b>94</b>
DISTINCTIVE CHARACTERS OF ILSA	128



# A PATH OF

## Our history

1956

### THE FIRM IS BORN IN 1956

Its founder's intuition was that of seeing in hide collagen a resource to be used to obtain nitrogen organic fertilisers. It is one of the longest-lived firms in the industry and its long history proves that ILSA has always been able to stay in the market with its products and meet through innovation the needs of an increasingly demanding and specialised agriculture.

1972

### IN 1972 IT BECOMES THE MOST IMPORTANT ITALIAN MAKER OF ORGANIC FERTILISERS

Thanks to the acquisition of Ico S.p.A. and Valcoa S.p.A., it consolidates its leadership among the Italian makers of organic fertilisers. In this same period it markets the first product with its own trademark, FERTORGANICO, still in production today.

1976

### IN 1976 THE STRATEGIC CHOICE OF GIVING GREAT IMPORTANCE TO RESEARCH

The first partnership is forged with the Faculty of Agronomics of the Università Cattolica del Sacro Cuore of Piacenza, which lays the groundwork for the entire subsequent evolution of the ILSA research. Over the time new partnerships have been forged with a lot of universities and research institutes in Italy and abroad, promoting the constant improvement of production processes and the creation of new highly effective products.

1979

### IN THE 1979 THE MOVE TO ARZIGNANO (VICENZA)

Being closer to the raw material from which AGROGEL® and GELAMIN®, the hydrolysed gelatins - one solid and the other fluid - for agricultural use, are obtained, means greater production capacity, greater chance of selecting the raw material itself, more efficient logistics and lesser environmental impact from transport.

2019

### CONSTRUCTION OF THE SECOND PRODUCTION PLAN IN RIO GRANDE DO SUL STATE, IN BRAZIL

Thanks to the new production plant, located just a few kilometers away from ILSA BRAZIL's one, operational since 2009, the production capacity of the company in Brazil reaches 52.000 tons. The whole production made by Ilsa Rio Grande do Sul is currently intended for to the Central and South America markets.

2017

### IN 2017 ILSA BECAME A "LARGE COMPANY" THANKS TO THE AGREEMENT WITH BIOLCHIM SPA WHICH ACQUIRED 60% OF THE SHARE CAPITAL

The most important industrial and commercial Group at a world level in the bio-stimulant sector was established. The Group also includes the Italian company - CIFO, the Canadian company - West Coast Marine Bio Processing, producer of seaweed extracts and the Hungarian company - Matècsa, producer of peats and derivatives.

2016

### IN 2016 THE SFE (SUPERCRITICAL FLUID EXTRACTION) EXTRACTION PLANT IS ACTIVATED

It is a clean process that allows extracting bioactive substances without using organic solvents and involves no heat stress. Because of its very low environmental impact, the FDA (Food and Drug Administration - U.S.) has conferred the GRAS (Generally Recognized as Safe) attribute to it. The combination between this new technology and the enzymatic hydrolysis technology has allowed the company to launch the VIRIDEM® programme, a guide to make plant-derived natural biostimulants that are efficient and can act on plant metabolism. A programme that can be summed up in a clear philosophy: «From plants for plants».

2020

### IN 2020 MERGER WITH ILSA MEDITERRANEO S.p.A

### ESTABLISHMENT OF ILSA PCA IN EGYPT

Through a merging by acquisition process, the company ILSA MEDITERRANEO S.p.a becomes an integral part of ILSA S.p.A.

Thanks to ILSA PCA the biostimulants and special liquid fertilizers' availability doubles, and the foundation for a well-structured distribution network of ILSA fertilizers, in Egypt and in the COMESA's member states, is laid.

2022

### J.M. HUBER CORPORATION TAKES OVER 40% OF THE SHARE CAPITAL OF ILSA S.p.A. AND THE WHOLE BIOLCHIM GROUP.

Biolchim, Cifo, ILSA, Matècsa and West Coast Marine has joined Huber Engineered Materials, becoming together with Miller Chemical and Fertilizers a key part of the business unit HUBER AGROSOLUTIONS.

# GROWTH

1993

## IN 1993 THE ENZYMATIC HYDROLYSIS PLANT IS ACTIVATED

The plant for the production of liquid fertilisers marks in fact the company's entry in this market and in the biotechnology sector. It confirms the company's vocation to innovation, quality and care for the environment. This plant gives birth to GELAMIN®, the fluid gelatin for agricultural use from enzymatic hydrolysis, and the plant-derived products for plant biostimulation from the VIRIDEM® programme.

2001

## IN 2001 THE ILSA MEDITERRANEO S.P.A. PLANT IS INAUGURATED

The production plant located in Molfetta, in the province of Bari, is the path chosen by the company to better serve the whole area of Southern Italy and meet the growing demand for its products coming from the countries of the Mediterranean basin.

2003

## SINCE 2003 QUALITY CERTIFICATIONS HAVE CONFIRMED WITH FACTS OUR OPERATIONAL PHILOSOPHY

The corporate development has always gone hand in hand with a strong sense of social responsibility; environmental protection, safety at work, product safety and transparency to the outside have always been considered as corporate priorities.

2005

## IN 2005 THE C.R.A. (CORPORATE RESEARCH CENTRE) IS INAUGURATED

35+ years of close partnerships with the most important research institutes result in the creation of the C.R.A., Corporate Research Centre, provided with growth chambers and the most modern equipment, which confirm the company's attitude towards product and process innovation.

2014

## IN 2014 ILSA RENEWS ITS TRADEMARK AND PRESENTS THE NEW PAY-OFF «THE GREEN EVOLUTION»

The ultimate frontier of the ILSA research generates a renewed corporate vision that is increasingly green and sustainable. With the launch of the new trademark, the new philosophy «the green evolution» is introduced: a prelude to the output of a new revolutionary range of products projecting the company into the future.

2010

## IN 2010 IT LAUNCHES THE FIRST PLANT-DERIVED BIOSTIMULANTS

After seven years of research, following legal recognition and introduction of the Fabaceae hydrolysate in the category of products with a specific action on plants, the company presents to the market its first plant-derived biostimulant, ILSAC-ON, quickly followed by ILSASTIM+ and ILSAVIS+.

2009

## IN 2009 THE ILSA BRASIL PLANT IS ACTIVATED

In the Rio Grande Do Sul state, in an area with a strong agricultural vocation, the new plant of the subsidiary ILSA BRASIL has been started to meet the growing demand for products based on AGROGEL® and GELAMIN®.

2007

## THE PUBLICATION IN THE OFFICIAL GAZETTE OF THE HYDROLYSED GELATIN FOR AGRICULTURAL USE

Thanks to AGROGEL®, 16 March 2007 will always remain an important date in the history of ILSA: the hydrolysed gelatin for agricultural use is introduced in the law ruling the use of fertilisers in Italy.



# ILSA PRODUCTION PLANTS



**ILSA BRASIL**  
PORTAO  
(Porto Alegre)



**ILSA**  
ARZIGNANO  
(Vicenza)

**ILSA**  
MOLFETTA  
(Bari)





## ORGANIC FARMING

The "Agricoltura Biologica ILSA" logo certifies that the fertiliser can be used in organic farming.



## FOLIAR APPLICATION

Foliar Fertiliser: it highlights the products to be supplied through leaves and characterised by safety of use, low molecular weight and the presence of mainly L-amino acids.



## FERTIGATION

Fertigation: it highlights fertigation products characterised by purity, presence of mainly L-amino acids and easiness of use.



## PLANT MATRIX

The products containing plant-derived matrices of vegetal origin obtained by enzymatic hydolysis or through super-critical CO<sub>2</sub> extraction, from yeasts, sugars, algae, fabaceae, etc.



## VIRIDEM®

The "Powered by VIRIDEM®" trademark certifies that the product has been developed by following the VIRIDEM® programme aimed at developing plant-based natural biostimulants.



## PEF/OEF

The mark indicate the study, realized by ILSA, of the environmental footprint organization, OEF (Organization Enviromental Footprint) and product, PEF (Product Environmental Footprint) .



# COMMUNICATION

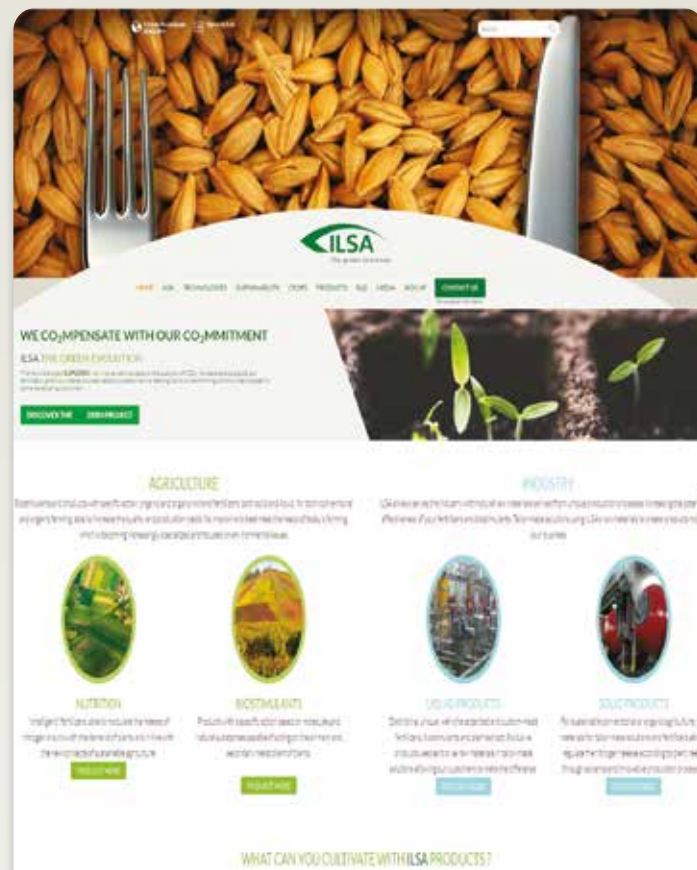
Transferring the knowledge heritage accumulated in many years of work is one of the social responsibilities of ILSA.

ILSA includes among its social responsibilities the one to transfer its Heritage of knowledge accumulated in many years of work.

## Services towards resellers and farmers

Agriculture is a dynamic and constantly evolving sector that requires specialised skills, also with regard to the introduction of new and increasingly sustainable production techniques.

Making those who operate in the agricultural sector aware of their role, not only in economic terms but also in social terms and regarding health and environmental protection, is one of the priorities that ILSA pursues by organising seminars, conferences and training courses intended for traders, technicians in the industry and farmers.

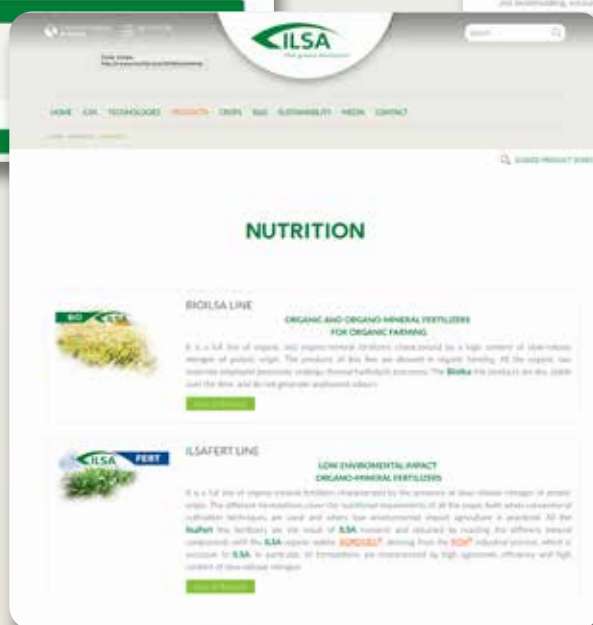
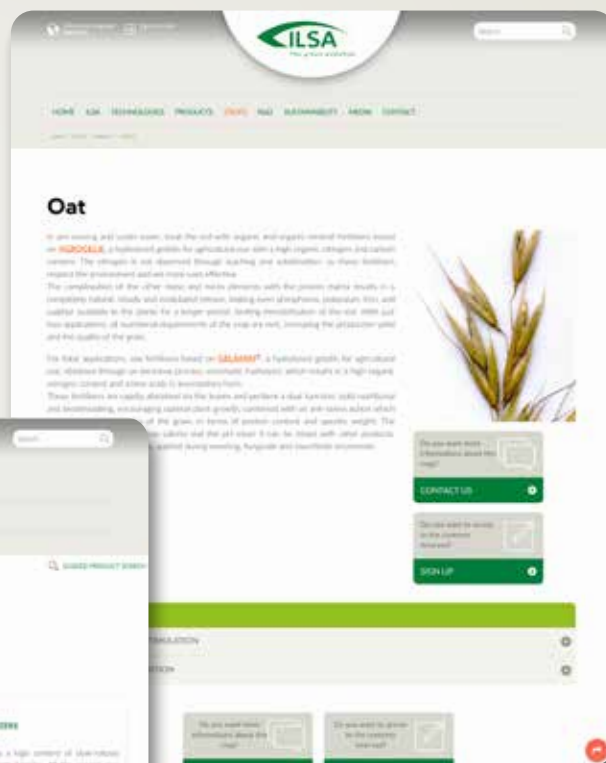
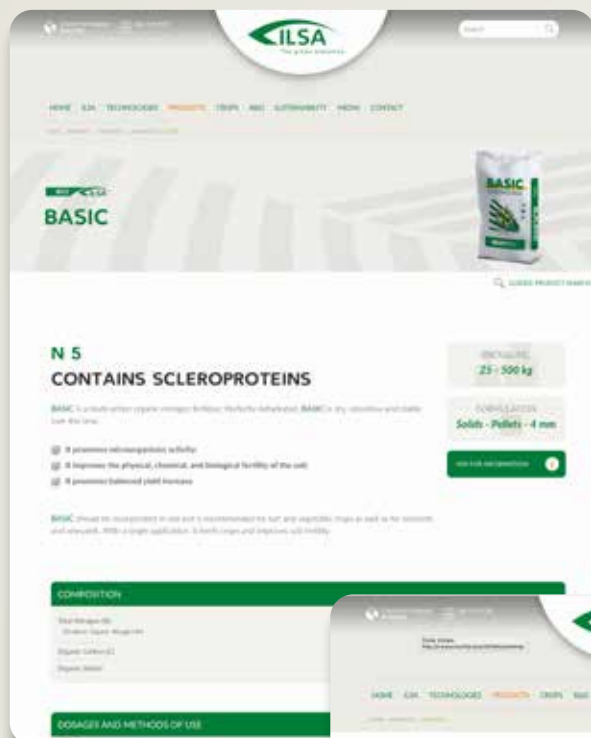


ILSA employs an in-house technical structure that is focused on daily spreading of, in addition to product value, agronomic, scientific and technological knowledge, with the aim of helping customers to identify the best technical solutions.

ILSA makes demonstration fields and in-field experiments, in Italy and abroad, collaborating with the R&D area. It takes care of collecting, drafting and spreading product and use information while meeting technicians, opinion leaders, resellers and farms to promote a more efficient use of its products.

**BECOME  
A MEMBER**  
on  
**www.ilsagroup.com**

You will have exclusive  
access to documents such as  
crop dossiers, technical data  
sheets and more...



# COMMUNICATION TOOLS

To better support its customers, ILSA has developed a series of communication tools:

## Websites

[www.ilsagroup.com](http://www.ilsagroup.com)

[www.agrogel.it](http://www.agrogel.it)

[www.gelamin.it](http://www.gelamin.it)

[www.viridem.it](http://www.viridem.it)

## Social

Linkedin

Twitter

Youtube (video tutorial)

Facebook

Instagram

## Informative newsletters

Technical Good to know

## Dossier

In-depth dossiers on crops and products

## Technical Notes

Explanations on product ages and methods of use

## Fertilisation Plans

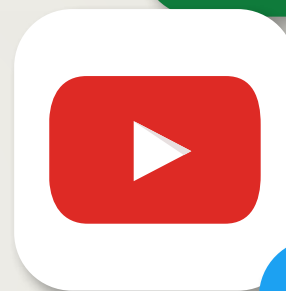
Customised intervention plans, for every type of crop, both organic and conventional, based on the desired agronomic goals.

## Results from demonstration fields, in Italy and Abroad

Results of in-field activity

## Product information material

(technical data sheets, safety data sheets, fertilisation plans and application instructions, dépliant)







HOME ILSA TECHNOLOGIES SUSTAINABILITY CROPS PRODUCTS R&D MEDIA SIGN UP CONTACT US  
For product information

## WE CO<sub>2</sub>MPENSATE WITH OUR CO<sub>2</sub>MMITMENT

### ILSA THE GREEN EVOLUTION

Thanks the project ILSAZERO, now we can aim to absorb the quantity of CO<sub>2</sub> we release to produce our fertilizers, grant our planet a sustainable future and lend a helping hand to the farming community located in some developing countries.

DISCOVER THE ILSAZERO PROJECT



## www.gelamin.it



## www.agroge.it



## www.viridem.it



## Linkedin



## Canale Youtube



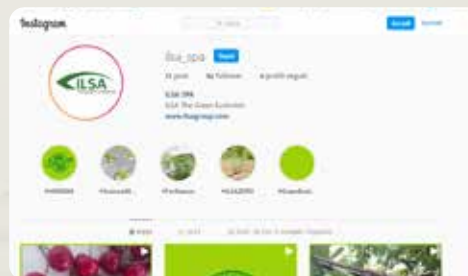
## Twitter



## Facebook



## Instagram





# ILSA'S NEWSLETTERS

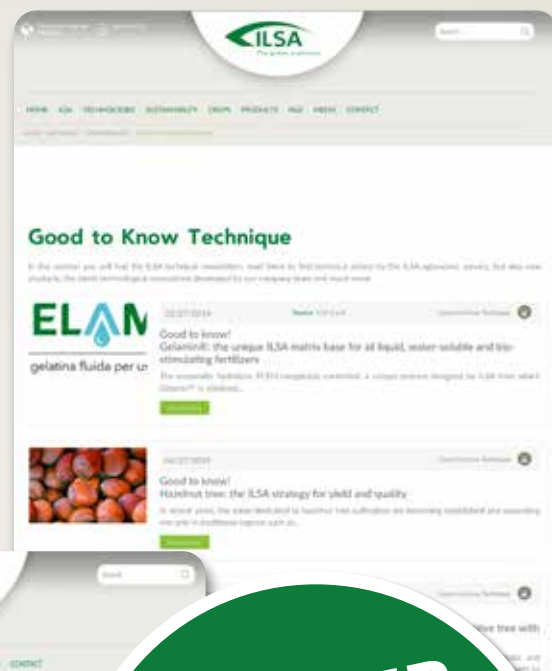
## GOOD TO KNOW

### The appointment with the information

"Good to know Technique" is our periodical newsletter of information on plant nutrition, with previews, updates and technical training. "Good to know Commercial" is Ilsa's periodical newsletter of commercial information. The recipients of these two free newsletters are those interested in the dynamics of general business and the agriculture world, that is, both Ilsa's friends and people who, out of curiosity or interest, want to find out the business core of a company that in the past 50 years has been working to improve the health and yield of crops. Our wish is to give technical and commercial information (also very in-depth) in a gentle way through easy and quick reading.

We think that science has been key in our history and believe that spreading and sharing knowledge can be the only way to continue growing. Our wish is that the "Good to know" newsletters can generate a fruitful exchange of views, having in mind an agriculture capable of overcoming business and environmental sustainability challenges as well as meeting the needs of this and future generations.

You only need to register to [www.ilsagroup.com](http://www.ilsagroup.com).



**REGISTER**  
on  
**[www.ilsagroup.com](http://www.ilsagroup.com)**  
You will receive the  
Good to Know more  
suitable for you!



## Editorials

**Good to know!**

**Gelamin®: the unique ILSA matrix base for all liquid, water-soluble and bio-stimulating fertilizers**

The enzymatic hydrolysis [\[11\]](#) is completely controlled; a unique process designed by ILSA from which [Lysogen](#)<sup>®</sup> is obtained, ensures a much higher quality result compared with chemical hydrolysis. In [Lysogen](#)<sup>®</sup>, the fluid gelatine for agricultural use, this process of "soft" and controlled hydrolysis, in all its phases, maintains intact the characteristics and functions of the amino acids it contains: in fact more than 80% may be found in their levocatory form, the only one recognised by nature.

**GELAMIN®**  
Fluid gelatine for agricultural use

Therefore, the raw material, collagen, and the **highly controlled and specific extraction process** allow **Collatex®** to stand out in early ways from the other organic fluid extracts which also derive from similar materials of origin such as fishings, animal leather and skins, present on the market today. The first distinctive feature is the high content of amino acids, equal to 50%, and its distribution among the different types which determines the typical



Environmental factors which affect hulling, yield and oil quality are also important; in particular

## Editorials

**Good to know!**

### Hazelnut tree: the ILSA strategy for yield and quality

In recent years, the areas dedicated to hazelnut tree cultivation are becoming established and expanding not only in traditional regions such as Piedmont and Liguria, but also in new areas such as Veneto, Tuscany and Umbria. There are many farmers in fact who concentrate on hazelnuts as a profitable and sustainable alternative to traditional cereal, fruit and wine production, relying on the high demand for raw material from the confectionery industry.



Hazelnuts in fact appear to be associated with some of the most famous Italian brands in the world. In addition, from an agronomic point of view, the hazelnut tree is a hardy plant which adapts well to almost all soils and requires limited labour compared with other crops, such as the vine, in many cultivation practices (in be mentioned, this is, however, a crop that cannot be improved).

In order to achieve adequate levels of quality, yield and income, technical skills and the use of innovative technologies are needed. Among the various technical choices to be made, that of an adequate nutrition plan is fundamental. Among the different fertilizers available, the use of organic fertilizers with modulated release such as those based on [compost](#), [rapid fertilizers based on amino acids for leaf and root application based on \[compost\]\(#\)](#) and [bio-stimulants of natural origin](#), developed within the [USA](#) [program](#), allow to [increase the efficiency of nutrition](#) and to [boost the quality and quantity of the production while respecting the environment](#).

## Editorials

**Good to know!**

### Greater productions and tolerance to environmental stress on the olive tree with the ILSA methodology

With respect to olive growing, an olive grove must be maintained in such a way as to allow an economically viable management for the agricultural entrepreneur. For this reason, it is necessary that the **factors** light, temperature, availability of nutrients and water which influence the physiological and biological processes at the base of the vegetative and productive growth of the plant quantity and quality **should be optimised** and that fertilisation with **the use of natural products with a specific action on the metabolism of the plant** itself should be made possible during the crop cycle.



Environmental factors which affect hulling, yield and oil quality are also important; in particular

## Editorials

**Good to know!**

### The importance of olive fertilisation

It is by now a well-known fact that fertilization represents a fundamental agronomic technique to allow a correct vegetative-proliferative development of the stony core and of adherent plants in general. In recent years, the introduction of **soil enrichment fertilization with leaf fertilizations** is becoming increasingly important, as it allows the plant to be nourished in a balanced way even during periods in which the activity of the root system is less intense, providing essential nutrients for each phenological phase.



IESA suggests a nutritional Method based on the use of **nutritional sciences** and **biotechnology**, the result of an integrated process between Research, Innovation and Selection of raw materials, fully respecting the environment and the consumer.

The use during the flowering and fruit setting phases of **Fluconazole** in association with **Fluconazole**, both permitted in **organic agriculture**, enables **stimulating the opening of the flower buds** and the **formation of the pollen tube**, ensuring a **good fruit set**, even in conditions of environmental stress (temperature changes, rain, late frosts, etc.).



FULLY  
CONTROLLED  
ENZYMATIC  
HYDROLYSIS

1



SUPERCRITICAL  
FLUID  
EXTRACTION

2

## ILSA's production processes.

With "The green evolution", ILSA can count on particularly efficient production technologies for more responsible and sustainable agriculture.

These technologies are highly automated and unique of their kind because they are the only ones capable of producing modulated release solid organic fertilizers (a process called: FCH® - Fully Controlled Hydrolysis) and liquid fertilizers with predetermined molecular weight in the production phase (process called: FCEH®).

In recent years, the company has supplemented FCH® and FCEH® with the SFE® (Supercritical Fluid Extraction) extraction process.

These three technologies have been used in the food, pharmaceutical and cosmetics sectors for years.

By implementing and integrating the processes of enzymatic hydrolysis and supercritical extraction, the company has created strongly characterised and efficient biostimulants.

No other company in the world owns and uses these two technologies together to create products that enhance the performance and well-being of cultivated plants.





---

FULLY  
CONTROLLED  
ENZYMATIC  
HYDROLYSIS

---



---

SUPERCritical  
FLUID  
EXTRACTION

---



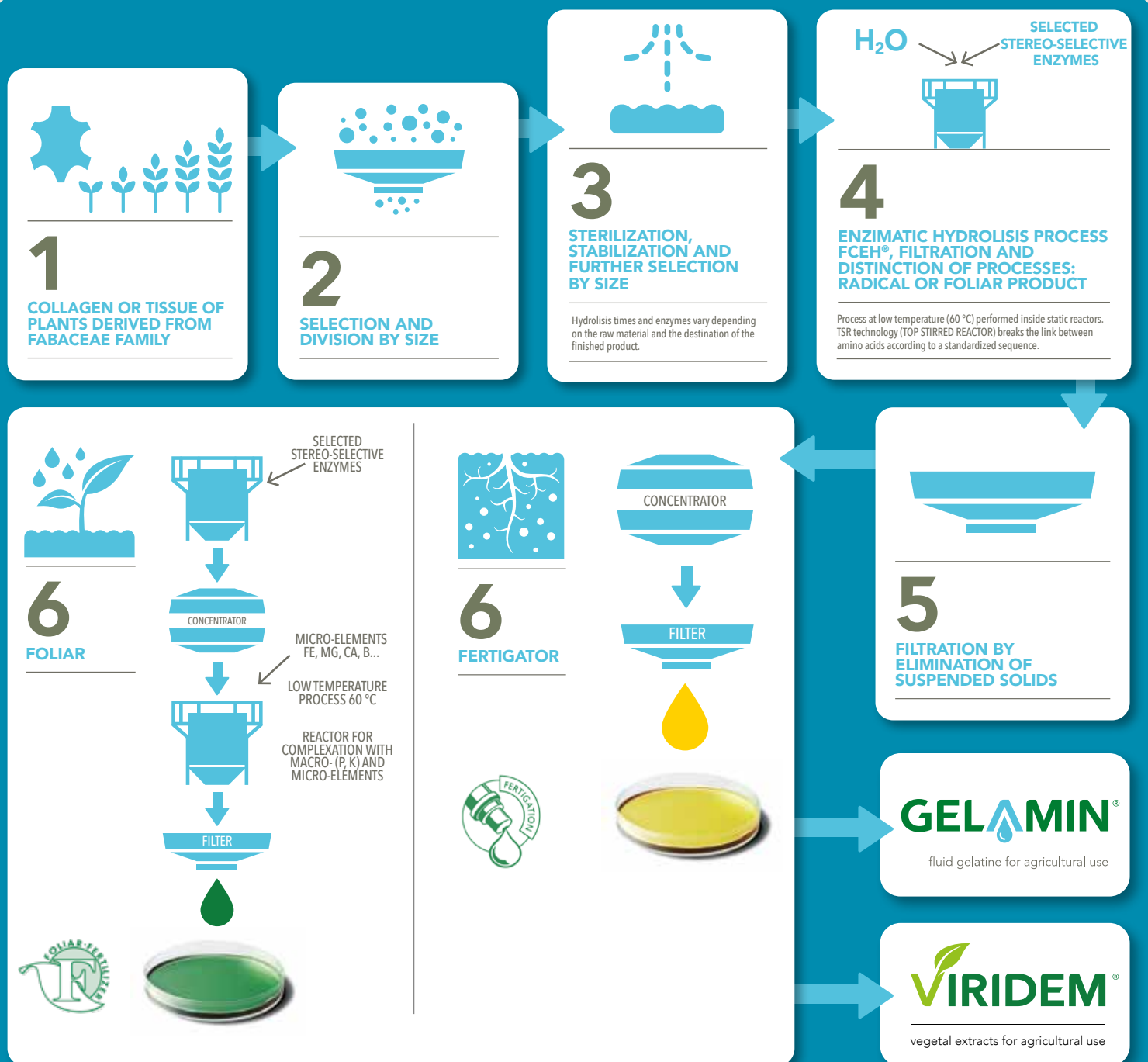


# FCEH® IN 6 STEPS

## ENZYMATIC HYDROLYSIS

**FCEH**

FULLY  
CONTROLLED  
ENZYMATIC  
HYDROLYSIS



**ENZYMATIC HYDROLYSIS** is a production process defined as “gentle process” because it involves the use of proteolytic and cellulolytic enzymes which “cut” the target molecules at specific points and it takes place inside static reactors at low temperatures (50-55°C). This allows us to obtain enzymatic hydrolysates which are characterised by:

**HIGH EFFICIENCY THANKS TO PRESERVING THE CHEMICAL AND BIOLOGICAL CHARACTERISTICS OF THE BIOACTIVE MOLECULES PRESENT IN THE RAW MATERIALS**

**PRODUCTS WHICH ARE HOMOGENEOUS AND STABLE OVER TIME**

**THE POSSIBILITY OF MIXING PRODUCTS WITH ANY FORMULATION DESIGNED FOR LEAF OR ROOT APPLICATION THANKS TO THE LOW SALINITY**

**SUB-ACID PH WHICH PROMOTES ABSORPTION OF THE PRODUCTS WHICH ARE MIXED WITH THEM**

**GELAMIN®** is a fluid hydrolysed gelatine, from animal origin, for agricultural use which, thanks to its special characteristics, is the essential matrix of many of all ILSA's liquid and water-soluble fertilisers.

**GELAMIN®** is characterised by a high efficiency of use and:

- a high nutritional efficacy thanks to the high content of nitrogen and organic carbon, completely soluble and bio-available;
- a bio-stimulating action as it contains more than 50% of total amino acids in the form of polypeptides, peptides and free amino acids predominantly in levorotatory form, the only form used by plants;
- a rapid absorption through leaf and root thanks to the high purity and stability of the protein matrix;
- a rapid action in preventing any nutritional deficiencies thanks to the complexing action of the amino acids with macro, meso and micro elements.

The **ENZYMATIC HYDROLYSATE OF FABACEAE**, is obtained through the use of proteolytic and cellulolytic enzymes from plant tissues belonging to the Fabaceae family.

The **ENZYMATIC HYDROLYSATE OF FABACEAE** is characterised by:

- an increase in the productivity and quality of agricultural production thanks to its bio-stimulating effect, linked to the presence of a pool of organic molecules acting directly and indirectly on the primary and secondary metabolism of plants;
- a multiple action on the plant as it increases its tolerance to stress and stimulates rooting, vegetative growth, flowering, fruit setting, the final quality of the produce and the shelf-life;
- a highly efficient use and therefore a reduced dosage.

# SFE<sup>®</sup> IN 5 STEPS

SUPERCritical CO<sub>2</sub> EXTRACTION



1

RAW MATERIAL:  
PLANTS DERIVED  
FROM FABACEAE FAMILY



2

SUPERCritical CO<sub>2</sub>  
EXTRACTION



3

ROUGH VEGETAL EXTRACT



5

VEGETAL EXTRACT  
IN SUSPENSION



4

MIXING AND  
STANDARDIZATION

**VIRIDEM<sup>®</sup>**

vegetal extracts for agricultural use

# THE PLANT EXTRACT PROCESS: SFE®

The process called SUPERCRITICAL FLUID EXTRACTION allows extracting bioactive substances from plant matrices and is performed by using Carbon Dioxide (CO<sub>2</sub>) as extraction fluid, in supercritical conditions.



---

SUPERCRITICAL  
FLUID  
EXTRACTION

---

The extraction of bioactive substances from plant matrices is performed by using Carbon Dioxide (CO<sub>2</sub>) as extraction fluid, in supercritical conditions. The solvent power of CO<sub>2</sub> can be regulated by increasing or diminishing pressures and/or temperatures.

By adequately modifying pressure (which can reach 1.000 bar) and temperature (never over 80 °C) conditions, such process allows creating very selective unique extractions with different levels of oils, waxes and desirable extracts. The plant raw materials, suitably dried and ground, are introduced into the plant and Carbon Dioxide (CO<sub>2</sub>), a gas that under specific environmental conditions (temperature of 31.1 °C and pressure of 73.8 bar) is found in a supercritical stage, is brought to the desired temperature and pressure, so starting the extraction stage.

Once the extraction is completed, the operating pressure is reduced and CO<sub>2</sub> loses its solvent force, releasing the substances extracted, which are available in a concentrated form.

The extracts obtained are microbiologically stable and do not need preservatives. Differently from conventional procedures, the selectivity of the ILSA extraction process does not entail heat stress in raw materials or require using organic solvents.

Because of its very low environmental impact, the FDA (Food and Drug Administration - U.S.) has conferred the GRAS (Generally Recognized as Safe) attribute to this industrial process.

The ILSA products with a specific action can act on plant metabolism to respond to specific qualitative and quantitative needs like, for example, size increase and uniformity, stimulation of flowering, sprouting and vegetative growth, fruit set and reduction of premature fruit drop, photosynthesis and vegetative growth, plant biomass increase, rooting, internode shortening, higher Brix level, resistance to fruit cracking and rot and shelf-life increase. They increase plant tolerance to abiotic stresses and support plants even under adverse conditions such as excessive soil salinity, temperature leaps and heat and water stresses. They reduce nitrate accumulation in leaves and support plants in stress situations caused by the application of agrochemicals. Last, they can foster plant nutrition by facilitating the assimilation of macro- and micro-elements.





# VIRIDEM® PROGRAMME

*ILSA has been engaged for years in a programme called VIRIDEM®, aimed at developing natural plant-based biostimulant products with a clear philosophy:*

*«From plants to plants.»*

*With VIRIDEM® «The green evolution» takes one more important step forward.*





---

vegetal extracts for agricultural use

VIRIDEM® is the ILSA programme that brings together the company's scientific heritage to develop its plant-derived biostimulants. Through the VIRIDEM® programme, ILSA embraces the philosophy of creating products for plants by starting from the plants themselves. Thanks to years of research, this work programme sums up the most advanced knowledge in molecular biology, applied microbiology, proteomics, metabolomics, physiology, chemistry and bioprocesses.

VIRIDEM® comes from the identification of bioactive substances inside different plant species, extracted with low environmental impact technologies and made available to plants in their full potential. The result is a complete range of natural and efficient products acting on plant metabolism: fertilizers with a specific action improving plant physiological processes and making plants vigorous, more productive and responsive to environmental stresses.

VIRIDEM® also represents the ILSA proposal to create conservative agricultural techniques aiming at preserving soil functions, protecting soil to improve its adaptation to climate changes with water saving solutions, and allowing using fertilisers in a more and more efficient, sustainable and integrated manner.

VIRIDEM® is all of this: observing nature, understanding its mechanisms and extracting its essence to help it with its own tools.

«From plants to plants.»

## **THE VIRIDEM® PROGRAMME IN THE FIELD OF BIOSTIMULANTS REPRESENTS:**

- Excellence in research oriented towards developing products for a more and more sustainable agriculture
- Excellence in selecting plant raw materials and experimenting specific substances extracted from them
- Excellence in the method of extracting bioactive substances
- Excellence in the ability to combine them to create biostimulant and nutritional products that are both innovative and highly efficient.

# VIRIDEM® PROGRAMME IN 12 STEPS

## STUDY AND ANALYSIS



1

IDENTIFICATION OF THE  
PLANT MATRIX



2

IDENTIFICATION OF THE  
COMPOUNDS  
(TARGET SUBSTANCES)



3

IDENTIFICATION OF  
THE STAGE IN THE  
PHENOLOGICAL CYCLE  
WHERE THE PLANT  
PRODUCES MOST  
COMPOUNDS  
(TARGET SUBSTANCES)

## IMPLEMENTATION AND LAUNCH



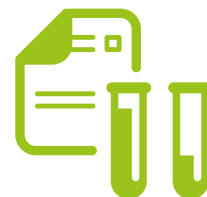
12

PACKAGING AND  
PRODUCT LAUNCH



11

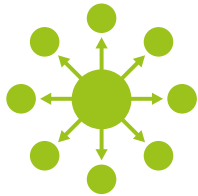
LAUNCH PLAN APPROVAL  
AND INDUSTRIAL  
START-UP



10

IDENTIFICATION OF  
EFFECTS, DOSES AND  
BENEFITS OF THE FINAL  
PRODUCT

## DEVELOPMENT



**4**

**CHEMICAL  
AND PHYSICAL  
CHARACTERISATION OF  
THE MATRIX AND OF  
SUBSTANCES**



**5**

**TUNING OF PARAMETERS  
AND OF THE MOST  
EFFICIENT AND  
EFFECTIVE EXTRACTION  
PROCESS IN PRESERVING  
THE INTEGRITY OF  
COMPOUNDS (TARGET  
SUBSTANCES)**

## TEST AND VERIFICATIONS



**6**

**LAB TEST AND  
PROTOTYPE  
CHARACTERISATION**



**7**

**TEST IN GROWTH  
CHAMBER**



**8**

**TEST IN CONTROLLED  
ENVIRONMENT OR IN  
GREENHOUSE**



**9**

**TEST IN OPEN FIELD**



# FROM VIRIDEM® THE EXCELLENCE OF **PLANT-DERIVED** PRODUCTS WITH A SPECIFIC ACTION

*It is estimated that in the world at least 30% of production is lost because of environmental stresses to which plants are subjected.*

*Adverse conditions limiting the quantity and quality of agricultural productions.*

*ILSA has launched a line of products with a specific action that are completely natural, very effective and made with lowest environmental impact technologies.*

# *ILSA innovation in the world of products with a specific action.*

The ILSA products with a specific action can act on plant metabolism to respond to specific qualitative and quantitative needs like, for example, size increase and uniformity, stimulation of flowering, sprouting and vegetative growth, fruit set and reduction of premature fruit drop, photosynthesis and vegetative growth, plant biomass increase, rooting, internode shortening, higher Brix level, resistance to fruit cracking and rot and shelf-life increase. They increase plant tolerance to abiotic stresses and support plants even under adverse conditions such as excessive soil salinity, temperature leaps and heat and water stresses. They reduce nitrate accumulation in leaves and support plants in stress situations caused by the application of agrochemicals. Last, they can foster plant nutrition by facilitating the assimilation of macro- and micro-elements.



PHOTOSYNTHESIS AND  
VEGETATIVE DEVELOPMENT



TOLERANCE TO HEAT AND  
WATER STRESS



SALINITY  
TOLERANCE



SHELF-LIFE



CRACKING  
AND ROT



FLOWERING  
AND FRUIT SET



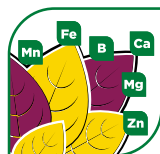
ROOTING



UNIFORMITY IN  
COLOUR AND RIPENING



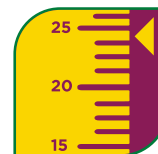
SIZE



NUTRITION AND  
NUTRIENT UP-TAKE



PLANT BIOMASS



DEGREES BRIX

# ILSA MANIFESTO ON AGRICULTURAL SUSTAINABILITY

## TO GIVE LESS AND PRODUCE MORE

*We make efficient products that at low doses allow increasing quality and production yields per hectare even in stress situations, improve agricultural soil fertility and promote a rational use of water resources while fully respecting the environment and the people living in it.*

1

## RENEWABLE SOURCES

*To make our biostimulants and fertilisers we mainly use natural raw materials coming from renewable sources (from animal and vegetal source).*

2

3

## PRODUCT INNOVATION

*The C.R.A. (Corporate Research Centre) applies «white» biotechnologies that, through the use of enzymes, allow developing products obtained by transforming natural raw materials that contain bioactive substances for plants.*

## PROCESS INNOVATION

*By using industrial processes generally recognised as having low environmental impact, we make products while drastically reducing emissions into the atmosphere and waste production. We are constantly analysing and monitoring the Product Environmental Footprint (PEF\*) and the Organisation Environmental Footprint (OEF\*).*

4

5

## TRAINING AND DISCLOSURE

*The correct use of products and the reduction of the environmental impact from their use also depend on good training and information activities addressed to the distribution system and to end-users.*

\* PEF: Product Environmental Footprint  
\* OEF: Organization Environmental Footprint

# ORGANIC CERTIFICATIONS

Organic farming employs cultivation techniques that avoid over-exploiting natural resources, in particular soil, water and air.

ILSA has a wide range of organic and organic-mineral fertilisers, both solid and liquid, used by organic farms, in Italy and all over the world. The company is regularly subjected to inspections on part of specific accredited certification bodies to determine the compliance and allowance of ILSA's technical means in organic farming.

The products allowed are distinguished by the brand "**ILSA Organic Farming**".



Below is the list of certification bodies to which ILSA refers by submitting the controls required by their protocols for the use in organic farming.



**MEZZI TECNICI  
AIAB**



**FiBL**



**KIWA BCS  
ÖKO-GARANTIE  
GMBH**



**CONTROL  
UNION  
SERVICES**



**OMRI**



# ILSA IS BRILLIANT COMPANY

The only one in the agricultural sector, ILSA is among the 30 Brilliant Companies of Italy selected by Kotler Publishing and Weevo.

An award that comes directly from the father of modern marketing for innovation in modular green biotechnologies, capable of solving the environmental problem of tanned leather trimmings in tanning clusters worldwide and producing highly efficient fertilisers and biostimulants for sustainable agriculture.

Do you want to find out why ILSA became Brilliant?  
Go to [www.ilsagroup.com](http://www.ilsagroup.com)



**30** brilliant  
company

**THE FIRST AWARD  
FOR SUSTAINABLE  
COMPANIES  
THAT GIVE  
VALUE TO ITALY  
AND TO GREEN  
BIOTECHNOLOGIES**



ILSA THE ONLY COMPANY  
IN THE FIELD OF GREEN  
BIOTECHNOLOGIES FOR  
AGRICULTURE

BRILLIANT  
ITALIAN  
COMPANY  
2022

Kotler<sup>®</sup>  
impact  
Never Stop



AWARD  
FOR INNOVATION  
IN GREEN  
BIOTECHNOLOGIES

# AMONG THE 30 BRILLIANT ITALIAN COMPANIES



# PLANT BIOMASS



ILSARODDER pag. 96

*The development of plant tissues and biomass is due to the intense activity of meristems, which, under ideal environmental, nutritional and hormonal conditions, can continue growing throughout the plant's life. Meristem activity produces specialised cells and tissues according to the plant's genetic potential and functional needs.*

*Biomass is the ensemble of all tissues, that is, everything that originates from each plant's life. Like every living body, biomass depends on biochemical processes but also on available nutrients, water, light and climate. Any stress condition limits each plant's vital expressions. Difficult environmental conditions can, therefore, compromise proper leaf formation and the aerial system, so reducing all crop physiological processes, which results in low production and final quality.*

***The ILSA products with a specific action on plant biomass, based on plant biostimulant components, act on nitrogen and carbon metabolism, so promoting a regular increase in leaf biomass without having to resort to excessive fertilisation.***







# SIZE

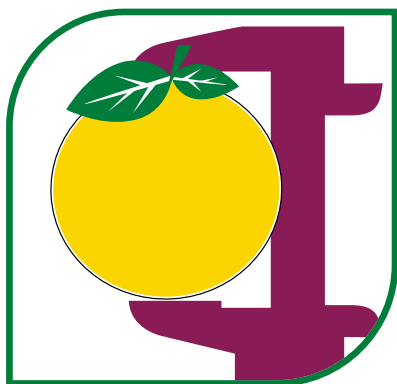


*In every plant fruits represent the survival organs of the species: for this reason they must be numerous and have a very good structure. After fecundation, fruit cells begin to multiply intensely to then stretch and enlarge, defining fruit size. This stage affects not only those who grow them, but also consumers.*

*The enlargement process requires the action of natural hormones regulating the various cell steps. During fruit growth a nutritional competition takes place between fruits, buds and sprouts. Nutritional imbalances (excesses or deficiencies), temperature leaps, hard environmental conditions or excess fruits with regard to the plant's conditions can hamper fruit growth.*

*In order to increase the size of fruits and vegetables, an efficient hormonal and nutritional balance is needed, starting from the previous fruit set stage.*

***The ILSA products with a specific action on increasing size contain amino acids, peptides, proteins, algae extracts, betaines and other plant extracts that act on the plant's physiology and allow fruits to fall in commercially superior size categories, limiting adverse nutritional and environmental stresses.***



# UNIFORMITY IN COLOUR AND RIPENING



Conventional  
Farming

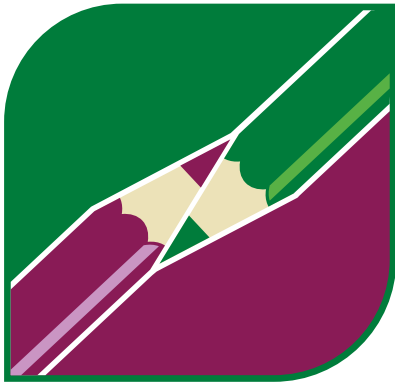
ILSAKOLORADO pag. 102

*Every ripe fruit reaches its ideal growth point through a series of internal changes affecting:*

- *a change in the colour*
- *pulp softening*
- *an increase in sugars*
- *the presence of flavours*

*The colour is typical to both the species and the variety and each colour corresponds to a particularly effective substance for human health also, which is indication of a specific set of beneficial effects on the organism. The accumulation of these substances is at its peak at the time of full ripening and is indication of quality. Definitively, it is the result that sums up the quality of the farmer's agronomic choices.*

***The ILSA products with a specific action on colour and ripening uniformity, based on potassium, betaines, polysaccharides and other plant extracts, facilitate greater production of the natural pigments responsible for the final colour and allow balancing nutrient distribution among fruits, so to have a harvest as simultaneous as possible.***





# FLOWERING AND FRUIT SET



ILSAGIRMA pag. 70



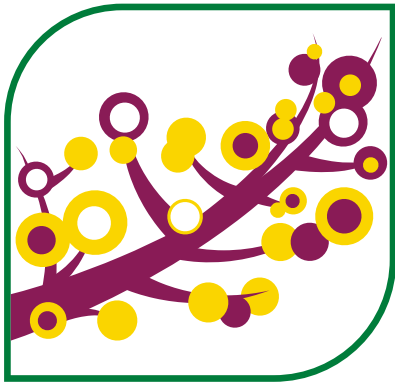
ILSAVEGETUS pag. 72



*Flowering is affected by genetic and environmental (temperature, photoperiod, soil type, biological balances) factors. Proper synchronisation leaves and flowers' stages production is also decisive. When plants receive appropriate light and temperature signals from the environment, meristem cells start to proliferate, giving rise to inflorescences. The synchronisation between vegetative and reproductive boosts is linked to specific hormonal and enzymatic balances regulating leaf development, which is able to provide sufficient energy to support flowers and fruits.*

*The increase in flowering and, above all, in the number of fruits set, that is, the final yield, depends on the plant's nutritional balance and the efficiency of the enzymatic systems responsible for physiological processes.*

***The ILSA products with a specific action on flowering and fruit set, based on plant extracts, act by positively stimulating the vegetative/productive activity of plants, regulating nutrient distribution and allowing the plant to mature a greater number of fruits.***



# PHOTOSYNTHESIS AND VEGETATIVE DEVELOPMENT



*In the presence of sunlight, by using atmospheric carbon dioxide and metabolic water and thanks to chlorophyll photosynthesis, green plants produce organic substances, especially carbohydrates. Chlorophyll photosynthesis is a fundamental natural process to obtain organic compounds from inorganic substances and is the only biologically important process capable of transforming solar energy, on which life on Earth depends. This process depends on plant tissues, their nutrition and hydration state and the intensity of bioactive enzymes.*

*Efficient photosynthesis produces all the carbohydrates, amino acids and lipids that plants need during their vegetative development.*

*Plant tissue development is linked to the activity of meristems, which give rise to intense cell multiplication and division. To improve photosynthesis and the growth of leaves and sprouts, it is necessary to promote meristematic activity while limiting stress conditions.*

***The ILSA products with a specific action on photosynthesis and vegetative development, based on amino acids, proteins, phosphorus, betaines, glycosides and other plant extracts, help to overcome climate stresses and, at the same time, allow proper photosynthesis and increased crop growth.***







# DEGREES BRIX



Conventional  
Farming

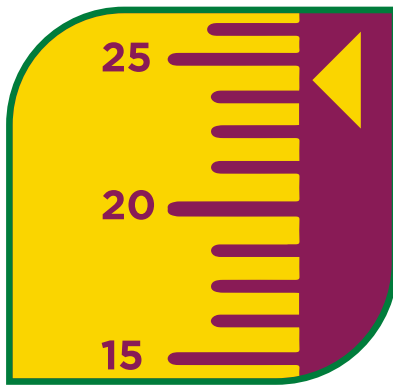
ILSAGRADER pag. 106

*The final quality and, therefore, the commercial value of grapes, peaches, strawberries, melons and other fruits greatly depends on the sugar degree at harvest. Obviously, the greater the value of final production, the higher is the farmer's income.*

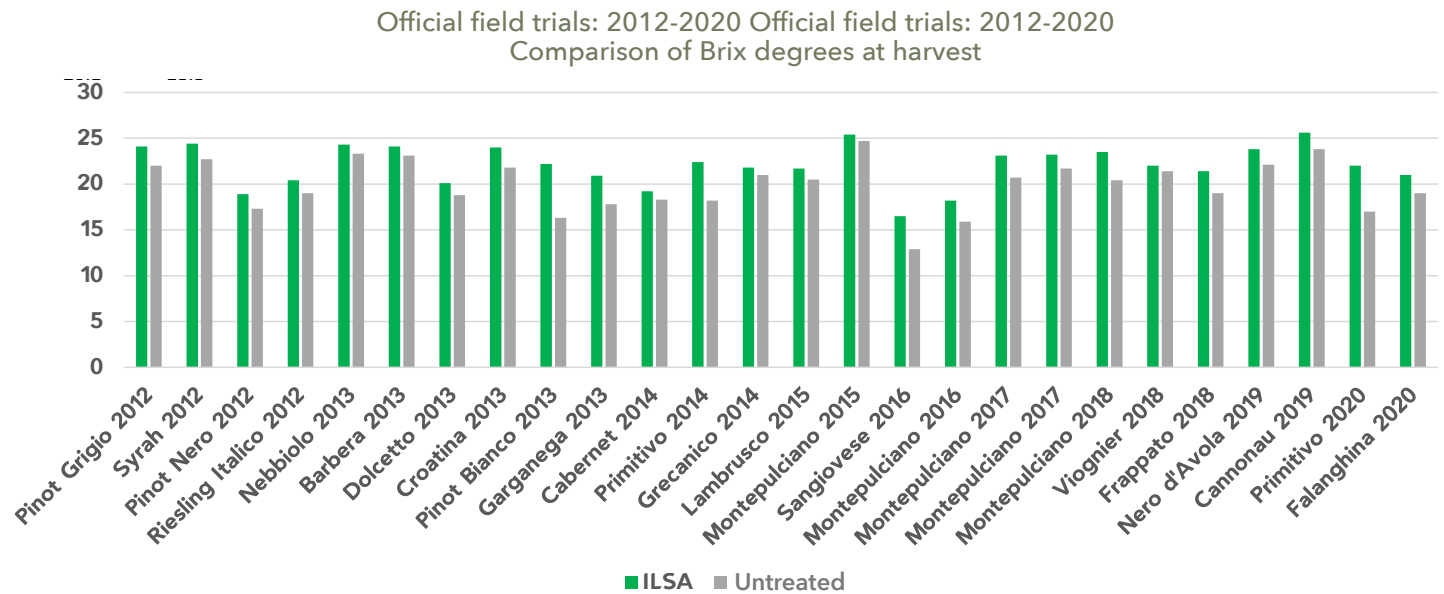
*The sugar degree is measured in degrees Brix: the degree Brix expresses the amount of sugars contained in fruits and vegetables, in wine and drinks and in the intermediate products of sugar preparation; it does so by measuring the solid substances dissolved in a liquid. For instance, a 25 degrees Brix solution contains 25 grammes of solid substances per 100 grammes of total liquid.*

*The degree Brix, specific for each type of fruit, measures the ripening degree and the overall quality reached by fruits. The greater the degree Brix, the greater are quality and transformation potential. The ensemble of agronomic and environmental choices and the genetic potential of crops strongly affect the degree Brix.*

***The ILSA products with a specific action on the sugar degree, based on polysaccharides, potassium, betaines, algae extracts and other plant components, foster the production of sugars by the plant and their transfer into the final product, so also improving the balance between flavours and savours.***



## Summary of ILSA Official field trials 2012-2020: Comparison of Brix degrees at harvest



# ROOTING



ILSAORGAMIT-R pag. 76

ILSADEEPDOWN pag. 108

ILSARODDER pag. 96

*In plants all activities are regulated by typical plant hormones that, with different functions, interact and are interdependent. Also, when combining they affect the production of other hormones, regulate specific and complex activities and are largely responsible for the plant's development speed. A few substances facilitate auxin accumulation in root tissues, that is, make early root production easier. Their presence stimulates the plant's natural potential to produce roots in highly fertile soils.*

*A root stimulator must ensure good root development during the stages of germination, seedlings rooting and vegetative growth. It also helps maintain roots in good health by preparing the crop for the following stages of flowering and fruit set. Finally, it is expected to exert an anti-stress function in the post-repotting stages and in times of drought or excessive heat.*

*To allow a good vegetative start of plants, which lays the groundwork for a good final production, it is essential to improve the development of root systems. In particular, in the stages of seedlings germination and rooting, initial stresses (shock from transplanting) must be reduced.*

***The ILSA products with a specific action on increasing rooting, based on phosphorus, humic substances, amino acids and plant extracts, foster the accumulation of natural hormones in the basal part of plants and, accordingly, an easier and faster root development.***





# SHELF-LIFE

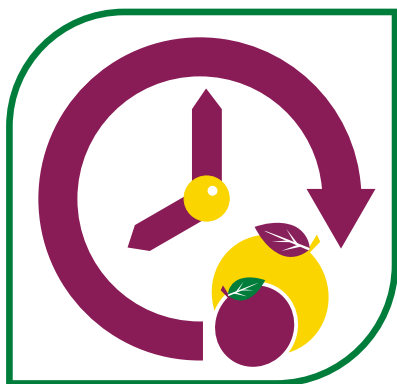


ILSADURADA pag. 78

*Shelf-life is the time within which a particular food must be consumed, under certain preservation conditions, following which degradation happens at the sensory level (smell, colour and savour), at the nutritional level (degradation of proteins and other substances) and from the hygienic point of view (microbiological contamination and proliferation of bacterial colonies). Shelf-life directly depends on the level of maturation and health of plant products and on the processing they can endure.*

*Extending the shelf-life of fruits and vegetables allows managing all post-harvest operations more easily and extend market life, so preventing sensory, nutritional and hygienic degradation from jeopardising the final product quality. All of this means to better exploit agricultural productions commercially.*

***The ILSA products with a specific action on increasing shelf-life, based on amino acids, humic substances and other selected plant extracts, have a strong anti-oxidising and regulating action on the cell processes that keep fruits and vegetables good for longer.***



# ROT AND CRACKINGS



ILSAINTEGER pag. 110



ILSANOBREAK pag.112



Conventional Farming

*The quality of fruits and vegetable depends not only on their organoleptic features, but also on their physical aspect. The presence of cracking can also cause rot and further deterioration of final quality.*

*Splitting and cracking are a serious problem for all fruits. During dry periods the skin loses elasticity. When then it rains or crops are irrigated unevenly, the fruit absorbs a great quantity of water in little time, which causes the skin to burst at its weakest point. In particular, in the most sensitive cultivars it is necessary to minimise physiological stress and fruit cracking.*

*Crop feeding plays an important role in limiting cracking and splitting. In fruits, especially in the skin, adequate concentrations of calcium and boron and the right quantity of essential amino acids are fundamental: if the elasticity of cell walls grows, these are less susceptible to splitting and cracking even without excess nitrogen, which could reduce the skin's thickness*

***The ILSA products with a specific action on resistance to rot and cracking, based on calcium, potassium, betaines, vitamins, phenolic compounds and other plant extracts, allow increasing the resistance and elasticity of the fruit's skin and preventing rot.***





# TOLERANCE TO HEAT AND WATER STRESS



Organic  
Farming

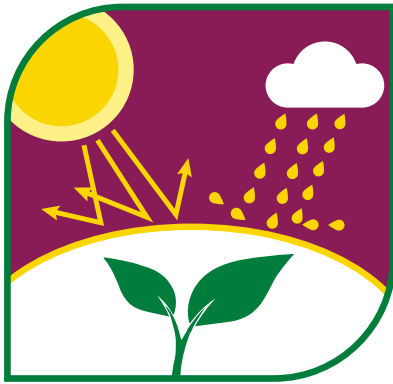
ILSATERMIKO pag. 80

*The weather conditions characterising each geographical area comprise the whole of climate factors such as temperature, solar radiation, atmospheric precipitation, wind, humidity, soil evaporation, etc. The growth of plants is linked to their environment. Each plant species has, towards each environmental factor, a tolerance level within which it performs its vital functions.*

*Plants have organic temperatures similar to those of the surrounding environment. Below 0 °C photosynthesis is almost absent and the plant enters a state of latent life; above 50 °C protoplasm coagulation begins. Within this range each species and variety finds its ideal conditions.*

*To withstand extreme conditions, for example excessive heat or cold, plants modify water availability and solute concentration in the sap. Stresses from high or low temperatures and from water deficiency or excess can jeopardise the vital functions of crops (photosynthesis, vegetative development and nutrient absorption) with noticeable impact on production and, consequently, final quality.*

***The ILSA products with a specific action on tolerance to heat and water stress, based on specific amino acids, potassium and selected plant extracts, allow a smooth progress of cell processes, so helping crops produce at high levels even under adverse conditions.***



# SALINITY TOLERANCE



ILSASTIMSET pag. 66

*Salinity causes serious damage to agriculture and plant productivity. High sodium concentrations reduce water absorption by roots and damage cells, so seriously threatening the plant's survival. The plant reacts to saline stress first by blocking the activity of sprouts, then by accelerating the senescence of already developed tissues. If somehow it manages to survive, its productivity will certainly be compromised.*

*At the physiological level, plants suffer three types of salinity damage: osmotic, nutritional and toxic.*

*Osmotic damage is due to a reduction of cell turgor that involves the alteration of metabolic processes and the inhibition of growth.*

*An increased concentration in tissues of a few ions, sodium in particular, has a toxic and denaturing effect towards cytoplasmic enzymes. This leads to reduced early growth (leaf area reduction and shortened internodes) and afterwards, in the most serious cases, browning, spread necroses and death of tissues.*

*Excess salinity, due to the use of brackish waters or excessive use of mineral fertilisers, can cause problems of absorption by crops and, in the most serious cases, damage at the cell level leading to stunted growth, no production and death of plants.*

***The ILSA products with a specific action on salinity tolerance, based on amino acids, proteins, polysaccharides and other plant extracts, limit the negative factors linked to salinity, promoting the absorption of nutrients and water and allowing crops to grow and produce even in difficult conditions.***





# MULTIPURPOSE



ILSAPOLICOS  
pag. 86



Organic  
Farming



ILSAC-ON  
pag. 82



ILSASTIM+  
pag. 84



ILSAMIN N90  
pag. 88



MACRILS@  
pag. 90



SPLINTER NEW  
pag. 92

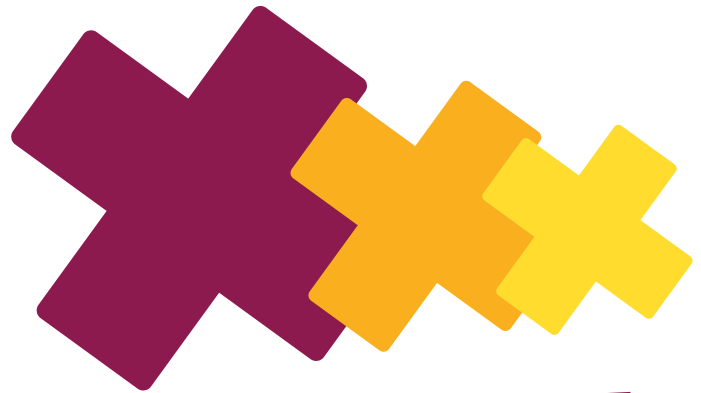
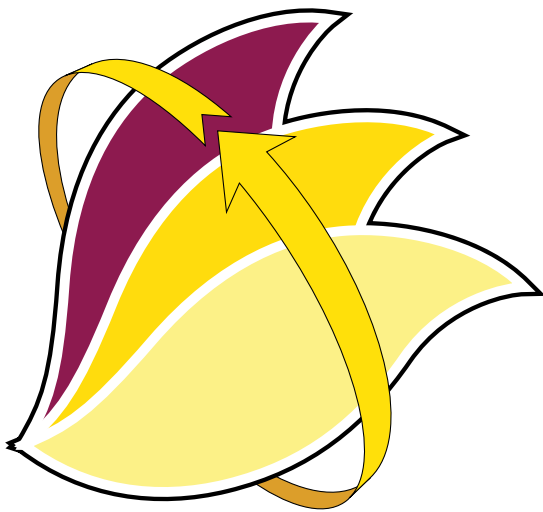
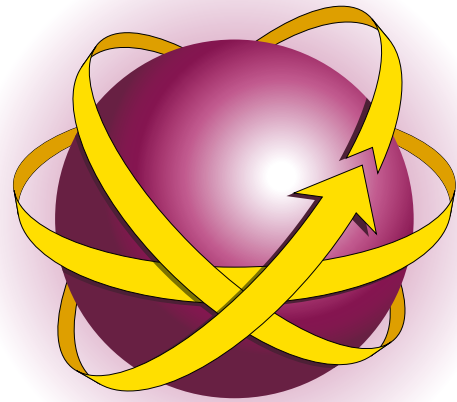
*Well-being (to be well) is a state characterising every plant's life quality and involves all its aspects. The concept of well-being is not centred on the idea of absence of pathologies, but on the concept of overall good health (vegetative, physiological and reproductive) and a condition of harmony between the plant and the environment.*

*Healthy plants better and sooner respond to stress, give higher yields and quality and produce constantly every year.*

*Specific substances with multiple actions positively stimulate plant metabolism, so promoting the all-round smooth progress of vegetative and productive stages, from the development of roots and plant biomass to good fruit formation and ripening.*

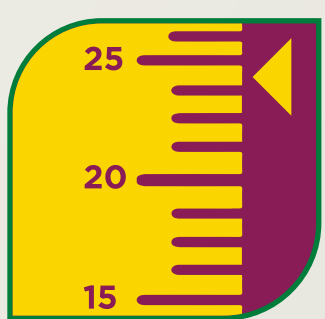
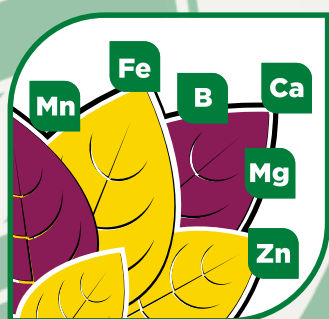
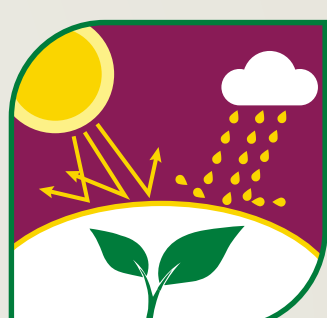
*The ILSA with a specific action and multifunctional products, based on triacontanol, free L-amino acids and other specific plant and animal derived substances, are able to regulate the plant's endogenous enzymatic systems through totally natural processes.*

*In one solution, they meet several needs in crops and provide continuous support throughout the plant's cycle, integrating seamlessly with fertilisation and other agronomic management practices and increasing their effectiveness.*



# PRODUCTS ALLOWED IN ORGANIC FARMING







# ILSA FITOCELL

BIOSTIMULANT



1  
kg

5  
kg



## Benefits:

- Stimulates the vegetative development and rachis elongation.
- Increases and uniformes the fruit size and their qualitative characteristics.
- Improves rapid recovery due to frost or hail stress.

## Characterising substances:

PEPTIDES FROM THE  
VEGETAL SOURCE

FREE AMINO ACIDS AND  
PEPTIDES WITH LOW  
MOLECULAR WEIGHT

ORGANIC TRIACONTANOL  
AND PLANT EXTRACTS

ACTIONS	COMPONENTS	PLANT-BASED PEPTIDES	FREE AMINO ACIDS AND OLIGOPEPTIDES	ORGANIC TRIACONTANOL AND PLANT EXTRACTS
	VEGETATIVE DEVELOPMENT AND REGENERATION OF PLANT TISSUES	✓	✓	✓
	INCREASE AND UNIFORM OF FRUIT SIZE	✓	✓	✓

## Composition:

TOTAL NITROGEN (N)	5%
OF WHICH: ORGANIC NITROGEN (N)	5%
ORGANIC CARBON (C)	19.5%
TOTAL AMINO ACIDS	31%
FREE AMINO ACIDS	3.5%
ORGANIC TRIACONTANOL	5 mg/kg



## Physico-chemical characteristics:

LIQUID COLOR BROWN

pH  $5.0 \pm 0.5$

DENSITY  $1.21 \pm 0.02 \text{ kg/dm}^3$

CONDUCTIVITY C.E.  $2.0 \pm 0.20 \text{ dS/m}$



## Contains in particular

ALFALFA PROTEIN HYDROLYSATE

## SIZE

## PHOTOSYNTHESIS AND VEGETATIVE DEVELOPMENT

### What is it?

**ILSAFITOCELL** is a biostimulant from vegetal source, obtained through an enzymatic hydrolysis process hydrolysing alfalfa tissues. The exclusive FCEH® process, patented by ILSA, allows the extraction of organic nitrogen, natural triacontanol, plant extracts and amino acids, partly free and in levorotatory form, the only form used by plants and only the enzymatic hydrolysis process can fully guarantee.

### What does it do?

The components of **ILSAFITOCELL** allow having more effects on cultivated crops.

**WHAT IT DOES FOR VEGETATIVE DEVELOPMENT: ILSAFITOCELL** stimulates the vegetative development of newly formed shoots, particularly the elongation of the flower clusters and the rachis on the vine allowing more regular flowering and fruit formation. Applied after any frost, hail, or other extreme weather events, **ILSAFITOCELL** allows a rapid regeneration of plant tissues and the rebalancing of physiological processes.

**ILSAFITOCELL WHAT IT DOES FOR THE FRUIT SIZE: ILSAFITOCELL** boosts the fruit size and quality in terms of firmness, uniformity size, aroma, sugar content and, in particular the RAN vine (readily assimilable nitrogen).

### How is it used?

**ILSAFITOCELL** should be applied by foliar application on tree and vegetable crops, in different phases of the crop cycle, depending on the final goal: during the development of the flower clusters, after freezing or cold returns and in the post-fruit setting, to stimulate an increase the fruit size and quality. The nature of **ILSAFITOCELL**'S components allows it to be used in organic farming.

### Directions for use\*

CROP	DOSAGE	NOTES
KIWI, CITRUS	3-4 kg/ha	3-4 applications, every 15-20 days, from pre-flowering to fruit development
POME FRUITS AND STONE FRUITS	2.5-3 kg/ha	3-4 applications, every 15-20 days, from pre-flowering to fruit development
STRAWBERRY	2.5-3 kg/ha	Every 10-15 days from pre-flowering to the entire harvest period
TOMATO, PEPPER, MELON AND OTHER VEGETABLES	2-2.5 kg/ha	3-5 applications, in alternating shifts, from vegetative development to fruit swelling
BLUEBERRY, RASPBERRY AND OTHER SMALL FRUITS	2.5-3 kg/ha	3-4 applications, every 15-20 days, from pre-flowering to fruit development
OLIVES	2.5-3 kg/ha	From fruit setting to fruit swelling every 15 days
TABLE AND WINE VINE	3-4 kg/ha	3-4 applications, every 15-20 days, from pre-flowering to fruit development

Post-frost / hail application: 3-4 kg/ha, to promote a rapid recovery plants and regeneration of vegetative tissues.

\* The doses shown should be considered merely indicative and may vary according to pedoclimatic conditions and expected average yields. For more product information (technical data sheet, safety data sheet, dossier, etc.) and further details on doses and how to use them on crops, please refer to the website

# ILSA STIMSET



OSMOTIC BALANCER IN  
THE FRUIT GROWTH STAGE

## Benefits

- It provides energy during vegetative stages and reduces sensitivity to saline stress.
- It balances osmotic exchange by stimulating wall permeability.
- It increases the number and size of fruits.



5  
kg

20  
kg



## Characterising substances

**PROTEIN NITROGEN  
AND CARBON**

**ANIMAL- AND PLANT-  
DERIVED AMINO  
ACIDS AND PEPTIDES**

COMPONENTS		PROTEIN NITROGEN AND CARBON	AMINO ACIDS AND PEPTIDES	PLANT-DERIVED AMINO ACIDS
ACTIONS	CELL TURGOR AND TISSUE CELL ENLARGEMENT		✓	✓
	REGULATION OF FLOWERING, FRUIT SET AND FRUIT DEVELOPMENT	✓	✓	✓

## Chemical and physical features

LIQUID COLOUR BROWN

pH 5.5 ± 0.5

DENSITY 1.20 ± 0.02 kg/dm<sup>3</sup>

CONDUCTIVITY E.C. 1.20 ± 0.20 dS/m



## Composition

TOTAL NITROGEN (N) (% p/p)	8%
of which: ORGANIC NITROGEN (N) (% p/p)	8%
ORGANIC CARBON (C) (% p/p)	22%



## Contains in particular

PLANT EXTRACTS

## SIZE

## SALINITY TOLERANCE

### What is it?

**ILSASTIMSET** is an osmotic balancer based on amino acids and peptides of animal and plant origin, protein nitrogen and other essential plant extracts to stimulate plant metabolism and promote cell turgor.

### What does it do?

**ILSASTIMSET** ensures more efficient water and nutrient uptake and correct vegetative development from the early stages up to the fruit development stages.

**WHAT IT DOES FOR THE SIZE:** By balancing water and nutrient uptake, **ILSASTIMSET** allows more and larger sized fruits to ripen. Indeed, the cell elongation that accompanies fruit development is due not only to hormonal factors but also to cell turgor, essential to keep the plant tissues rigid. For this reason, by promoting osmotic exchange within cells, a balance is achieved that allows water to penetrate and promote cell turgor.

**WHAT IT DOES FOR SALINITY TOLERANCE:** Even in conditions of high salinity of the circulating soil solution (therefore with a high “solute potential”), the use of **ILSASTIMSET** promotes the absorption of water inside the cells, helping the plants remain rigid. Moreover, the low salinity and pH values and the supply of organic carbon improve the soil structure and rebalance the pH at the rhizosphere level, limiting saline stress.

### How is it used?

**ILSASTIMSET** is designed to accompany the vegetative development and post-setting stages of fruit and vegetable crops. It must be applied by fertigation, alone or mixed with other formulations.

### Directions for use\*

CROP	DOSE	NOTES
INDUSTRIAL TOMATO, PEPPER, POTATO, AUBERGINE	25-30 kg/ha	3-5 applications, alternately, from vegetative growth to fruit enlargement
MELON, WATERMELON, COURGETTE, CUCUMBER, STRAWBERRY	20-25 kg/ha	3-5 applications, alternately, from vegetative growth to fruit enlargement
TOMATO AND OTHER FRUIT VEGETABLE CROPS IN THE GREENHOUSE	3-5 kg/1.000 m <sup>2</sup>	3-5 applications, alternately, from vegetative growth to fruit enlargement
POME FRUITS AND STONE FRUITS	15-25 kg/ha	3-4 applications, every 15-20 days, from pre-flowering to fruit development
TABLE AND WINE GRAPES	15-25 kg/ha	3-4 applications, every 15-20 days, from pre-flowering to fruit development

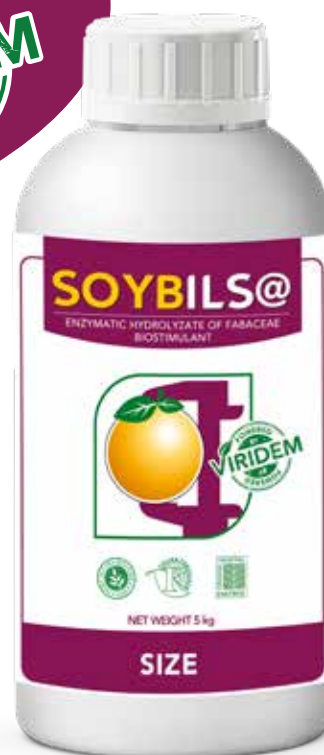
\* The doses shown should be considered as merely indicative and may vary according to pedoclimatic conditions and average yields expected. For more product information (technical data sheet, safety data sheet, dossier, etc.) and further details on doses and how to use on crops, please refer to the website [www.ilsagroup.com](http://www.ilsagroup.com)



# SOYBILS@



ENZYMATIC HYDROLYZATE OF FABACEAE  
BIOSTIMULANT



1  
kg

5  
kg

20  
kg



## Benefits

- Stimulates cell multiplication.
- Increases and uniform the size of the fruits.
- Raises both plants' tolerance to stress and fruit quality.

### Characterising substances

FREE AMINO ACIDS AND  
OLIGO-PEPTIDES FROM A  
VEGETAL MATRIX

NATURAL TRIACONTANOL  
FROM VEGETAL MATRIX

BETAINES AND  
POLYPHENOLS

ACTIONS	COMPONENTS	FREE AMINO ACIDS AND OLIGO-PEPTIDES FROM A VEGETAL MATRIX	NATURAL TRIACONTANOL FROM VEGETAL MATRIX	BETAINES AND POLYPHENOLS
	INCREASE AND UNIFORM FRUIT SIZE	✓	✓	✓
	QUALITATIVE FEATURES AND SHELF-LIFE	✓	✓	✓

## Chemical and physical features

LIQUID BROWN COLOUR

pH 4,0 ± 0,5

DENSITY 1,20 kg/dm<sup>3</sup>

CONDUCTIVITY E.C. 1,80 ± 0,20 dS/m



## Contains in particular

ENZYMATIC HYDROLYZATE OF FABACEAE

## Composition

TOTAL AMINO ACIDS	14%
FREE AMINO ACIDS	3,0%
NATURAL TRIACONTANOL	>6 mg/kg
ORGANIC (N) NITROGEN WATER SOLUBLE	>3,0%
ORGANIC (C) CARBON	>20,0%
BETAINES	>5,0%



What is it?

**SOYBILS®** is a liquid vegetal biostimulant obtained through an enzymatic hydrolysis process of soybean tissues, belonging to the Fabaceae family. It contains organic nitrogen and carbon, amino acids from a vegetal matrix both in free and oligo-peptides form, betaines, polyphenols and natural triacontanol.

What does it do?

The high concentration of amino acids, in particular glutamic acid and aspartic acid, betaines and natural Triacontanol stimulates the cell multiplication process increasing DNA and protein biosynthesis. This allows **SOYBILS®** to have a direct action on the vegetative development and fruit swelling stage. Furthermore, the product allows uniform fruits with size distribution belonging to the most commercially valid classes. Furthermore, the combined effect of other specific amino acids (leucine, serine, lysine, valine, alanine), polyphenols, natural triacontanol and betaines allows both to improve the qualitative characteristics of the fruits (in terms of Brix degrees, firmness, dry matter) and to have an antioxidant action reducing abiotic stress effect during fruit swelling and fruit ripening stage.

How is it used?

**SOYBILS®** could be used by foliar application, from the post-fruit setting of vines, trees, and vegetables. Starting from the beginning of the fruit formation stage, it stimulates the cell multiplication process, balancing fruit development, and increasing stress tolerance and final quality. The vegetal raw material and the natural process used allow using **SOYBILS®** in organic farming.

Directions for use\*

CROP	DOSE	NOTES
ACTINIDIA, CITRUS	2-2.5 kg/ha	Every 12-15 days, from fruit swelling to fruit ripening
STONE FRUIT, BLUEBERRY, RASPBERRY, AND OTHER SMALL FRUITS	2-2.5 kg/ha	2-4 applications, every 10-12 days, starting from post fruit setting
STRAWBERRY	2.5-3 kg/ha	Every 10-12 days, from post-flowering until the harvest period
MANGO, AVOCADO, BANANA AND OTHER TROPICAL FRUITS	2-2.5 kg/ha	2-4 applications, every 10-12 days, starting from the fruit setting
POME FRUITS	2-2.5 kg/ha	3-4 applications, every 10-15 days, starting from the fruit setting
TOMATO, PEPPER, MELON AND OTHER FRUIT VEGETABLES	2.5-3 kg/ha	3-4 applications, every 7-10 days, from the first fruit set
OLIVE	1.5-2 kg/ha	2-4 applications, every 10-12 days, starting from the fruit setting
TABLE AND WINE GRAPES	1.5-2 kg/ha	3-4 treatments during berries swelling, every 10-15 days

\* The doses shown should be considered as merely indicative and may vary according to pedoclimatic conditions and average yields expected. For more product information (technical data sheet, safety data sheet, dossier, etc.) and further details on doses and how to use on crops, please refer to the website [www.ilsagroup.com](http://www.ilsagroup.com)

# ILSA GIRMA



FLOWERING, FRUIT SET, REDUCTION  
OF PREMATURE FRUIT DROP

## Benefits

- It stimulates abundant and uniform flowering.
- It increases the percentage of attached fruits.
- It reduces the influence of stresses that cause fruit drop.



5  
kg

20  
kg



## Characterising substances

PROLINE  
GLUTAMIC ACID  
GLYCINE  
LAMINARINS  
FUCOIDANS  
YEAST EXTRACTS

COMPONENTS		ESSENTIAL AMINO ACIDS	LAMINARINS, FUCOIDANS	YEAST EXTRACTS
ACTIONS	FLOWERING STIMULATION	✓	✓	✓
	BALANCED FRUIT SET AND RIPENING	✓	✓	

## Chemical and physical features

LIQUID BROWN COLOUR

pH 5.0 ± 0.5

DENSITY 1.17 ± 0.02 kg/dm<sup>3</sup>

CONDUCTIVITY E.C. 1.10 ± 0.20 dS/m



## Composition

TOTAL NITROGEN (N) (% p/p)	5%
of which: ORGANIC NITROGEN (N) (% p/p)	5%
ORGANIC CARBON (C) (% p/p)	18%



## Contains in particular

FLUID YEAST EXTRACT CONTAINING BROWN ALGAE  
FLUID HYDROLYSATED ANIMAL EPITHELIUM

## What is it?

**ILSAGIRMA** is a flowering and fruit setting biopromoter based on protein nitrogen, amino acids and plant extracts.

## What does it do?

**ILSAGIRMA** supports the hormonal and enzymatic balances that regulate the flowering and fruit setting stages. These two stages are indeed strongly affected by the presence of nutrients and by enzymatic and hormonal systems that govern carbon metabolism and other physiological reactions in the plant. Temperature and water fluctuations or light deficiencies can negatively affect the photoperiod and the processes leading to fruit formation, so it is important to provide specific support substances.

In **ILSAGIRMA**, the presence of yeast extracts strongly stimulates flowering, accompanied by the action of fucoidans, laminarins and specific amino acids for the vegetative and flowering/fruit setting stages, such as proline, glutamic acid and glycine.

## How is it used?

**ILSAGIRMA** is designed to stimulate flowering and increase the fruit setting percentage of fruit trees and horticultural crops, thus increasing their final yield. It must be applied by fertigation, alone or mixed with other formulations, starting from pre-flowering and during the early stages of fruit development.

## Directions for use\*

CROP	DOSE	NOTES
INDUSTRIAL TOMATO, PEPPER, AUBERGINE	15-20 kg/ha	3-4 applications, every 15-20 days, from pre-flowering to fruit development
MELON, WATERMELON, COURGETTE, CUCUMBER, STRAWBERRY	15-20 kg/ha	3-4 applications, every 15-20 days, from pre-flowering to fruit development
TOMATO AND OTHER FRUIT VEGETABLE CROPS IN THE GREENHOUSE	2-3 kg/1.000 m <sup>2</sup>	3-4 applications, every 10-15 days, from pre-flowering
CHERRY TREE, PEACH TREE, PLUM TREE, APRICOT TREE	15-25 kg/ha	3-4 applications, every 15-20 days, from pre-flowering to fruit development
APPLE TREE, PEAR TREE, ACTINIDIA, CITRUS	15-25 kg/ha	3-4 applications, every 15-20 days, from pre-flowering to fruit development
WINE GRAPES, OLIVE TREE	15-25 kg/ha	3-4 applications, every 15-20 days, from pre-flowering to fruit development

\*The doses shown should be considered as merely indicative and may vary according to pedoclimatic conditions and average yields expected. For more product information (technical data sheet, safety data sheet, dossier, etc.) and further details on doses and how to use on crops, please refer to the website [www.ilsagroup.com](http://www.ilsagroup.com)



# ILSA VEGETUS

PROMOTES FLOWERING AND FRUIT SET  
BIOSTIMULANT



1  
kg

5  
kg



## Benefits

- It promotes the synchronisation of flowering.
- It stimulates anthesis and meristem activity even abiotic stress occurs.
- It promotes fruit setting and reduces fruit drop.

### Characterising substances

TRIACONTANOL FROM  
VEGETAL SOURCE

PHENOLIC COMPOUNDS

BIOACTIVE PLANT  
EXTRACTS

	COMPONENTS	TRIACONTANOL FROM VEGETAL SOURCE	PHENOLIC COMPOUNDS	PLANT EXTRACTS
ACTIONS	STIMULATION OF FLOWERING AND FRUIT SET	✓	✓	✓
	REDUCTION OF PREMATURE FRUIT DROP	✓		✓

### Composition

TOTAL AMINO ACIDS (% p/p)	5%
FREE AMINO ACIDS (% p/p)	1.5%
NATURAL TRIACONTANOL (mg/kg)	6.0



### Chemical and physical features

LIQUID BROWN COLOUR

pH 5.5 ± 0.5

DENSITY 1.15 ± 0.02 kg/dm<sup>3</sup>

CONDUCTIVITY E.C. 1.70 ± 0.20 dS/m



### Contains in particular

ENZYMATIC HYDROLYSATE OF FABACEAE

## What is it?

**ILSAVEGETUS** is a plant biostimulant based on the enzymatic hydrolysate of Fabaceae, in which natural triacontanol, phenolic compounds and other bioactive plant extracts have a positive effect on the primary metabolism of plants.

## What does it do?

**ILSAVEGETUS** improves the plant's vegetative activity by regulating the distribution of nutrients and positively stimulating all stages leading to the initial development of the fruit.

In fruit plants, while the fruits of the current season are forming and developing, the new vegetation grows and the flower buds are "prepared" for the following year and, for this reason, the plant must distribute nutrients and synchronise the vegetative and reproductive stages, which are linked to specific hormonal and enzymatic balances that must support flowers and fruits.

**ILSAVEGETUS** stimulates the activity of the enzymes that regulate the reactions of carbon and nitrogen metabolism, thus promoting photosynthesis, flowering and fruit setting, even at times of stress. Enzymatic and hormonal regulation allows more fruit to be harvested, thus limiting fruit drop and increasing final production.

## How is it used?

**ILSAVEGETUS** is designed for the vegetative development and flowering stages of fruit and vegetable crops, increasing their final yield. It must be applied by foliar application, alone or mixed with boron or other trace elements, starting from the pre-flowering stage and during the early stages of fruit development.

### Directions for use\*

CROP	DOSE	NOTES
APRICOT TREE, CHERRY TREE, PEACH TREE, NECTARINE, PLUM TREE, CITRUS	1.5-2.5 kg/ha	2-3 applications every 7-12 days, from the first flower buds
APPLE TREE, PEAR TREE	1.5-2.5 kg/ha	2-4 applications, every 10-15 days, starting when the shoots length are 10-15 cm
MELON, WATERMELON, CUCUMBER, COURGETTE	1.5-2 kg/ha	3-4 applications, every 8-10 days, starting from post-transplantation
PEPPER, TOMATO, AUBERGINE, POTATO	2-2.5 kg/ha	3-4 applications, every 8-10 days, starting from post-transplantation
OLIVE TREE	1.5-2 kg/ha	2-4 applications, every 10-15 days, starting from vegetative growth
ACTINIDIA	1.5-2.5 kg/ha	2-4 applications, every 10-15 days, starting when the shoots length are 10-15 cm
ORNAMENTAL CROPS (ROSE, CARNATION)	0.15-0.3 kg/1000m <sup>2</sup>	3-4 applications, every 10-15 days, starting from pre-flowering
WINE GRAPES	1.5-2.5 kg/ha	2-4 applications, every 10-15 days, starting when the shoots are 10-15 cm

\*The doses shown should be considered as merely indicative and may vary according to pedoclimatic conditions and average yields expected. For more product information (technical data sheet, safety data sheet, dossier, etc.) and further details on doses and how to use on crops, please refer to the website [www.ilsagroup.com](http://www.ilsagroup.com)

# ILSA LEVA

PROMOTES PHOTOSYNTHESIS  
BIOSTIMULANT



1  
kg

5  
kg

20  
kg



## Benefits

- It increases photosynthetic efficiency, even in stressful situations.
- It allows for greener and healthier vegetation.
- It promotes the development of plant tissues.

### Characterising substances

TRIACONTANOL FROM  
VEGETAL SOURCE

GLUTAMIC ACID

GLYCINE

GAMMA  
AMINOBUTYRIC ACID

BIOACTIVE PLANT  
EXTRACTS

VOLATILE COMPOUNDS

ACTIONS	COMPONENTS	TRIACONTANOL FROM VEGETAL SOURCE	AMINO ACIDS FROM VEGETAL SOURCE	PLANT EXTRACTS AND VOLATILE COMPOUNDS
	PHOTOSYNTHESIS EFFICIENCY	✓	✓	✓
	STIMULATION OF CELL EXPANSION	✓		✓

## Composition

TOTAL AMINO ACIDS (% p/p)	6%
FREE AMINO ACIDS (% p/p)	1.8%
NATURAL TRIACONTANOL (mg/kg)	7.0



## Chemical and physical features

LIQUID COLOUR BROWN

pH 5.0 ± 0.5

DENSITY 1.14 ± 0.02 kg/dm<sup>3</sup>

CONDUCTIVITY E.C. 1.50 ± 0.20 dS/m



## Contains in particular

ENZYMATIC HYDROLYSATE OF FABACEAE

## PHOTOSYNTHESIS AND VEGETATIVE DEVELOPMENT

### What is it?

**ILSALEVA** is a plant biostimulant based on the enzymatic hydrolysate of Fabaceae, whose composition, including triacontanol of natural origin, plant extracts and specific amino acids, has been designed to stimulate the vegetative development and photosynthesis of vegetable crops.

### What does it do?

**ILSALEVA** is an essential formulation that increases the photosynthetic efficiency of plants, which is often compromised by adverse environmental conditions.

Indeed, chlorophyll photosynthesis is the key natural process by which organic compounds are made from inorganic substances, using solar energy. The efficiency of photosynthesis depends on the state of nutrition and hydration of the plant tissues, the presence of specific pigments and the activity of the enzymes involved in the light and dark phases of the process. If only one of these conditions is missing, the vegetative balance is reduced, resulting in stunted growth, leaf deformities, vegetation with a yellowing colour and poor metabolites production.

The presence of triacontanol of natural origin, specific amino acids (glycine and glutamic acid, essential for chlorophyll synthesis), also of non-protein origin (gamma aminobutyric acid) and other plant extracts allows **ILSALEVA** to increase the photosynthetic efficiency of green tissues, vegetative development and, consequently, yield and final quality.

### How is it used?

**ILSALEVA** is designed for the vegetative development stages of horticultural crops (fruit, leaf, bulb, tuber, sprout), ensuring high photosynthetic efficiency. It must be applied by foliar application, both in open field and in greenhouses, alone or mixed with other formulations, starting from the early vegetative stages.

### Directions for use\*

CROP	DOSE	NOTES
TOMATO, PEPPER, AUBERGINE	1.5-2 kg/ha	2-4 applications, every 8-10 days, from 10 days after transplantation
MELON, WATERMELON, COURGETTE, CUCUMBER, STRAWBERRY	1.5-2 kg/ha	2-4 applications, every 8-10 days, from 10 days after transplantation
TOMATO AND OTHER FRUIT VEGETABLE CROPS IN THE GREENHOUSE	0.2-0.3 kg/1.000 m <sup>2</sup>	2-4 applications, every 8-10 days, from 10 days after transplantation
POTATO, CARROT	2-2.5 kg/ha	2-4 applications, every 8-10 days, from 10 days after transplantation
CABBAGES, FENNEL, ASPARAGUS, GARLIC AND ONION	1.5-2 kg/ha	2-4 applications, every 8-10 days, from 15 days after transplantation
LETTUCE, RADICCHIO AND OTHER LEAF VEGETABLE CROPS	2-2.5 kg/ha	2-4 applications, every 8-10 days, from 10 days after transplantation
LETTUCE AND OTHER FRESH CUT VEGETABLES IN THE GREENHOUSE	0.3-0.4 kg/1.000 m <sup>2</sup>	2-4 applications, every 8-10 days, from 10 days after transplantation

\* The doses shown should be considered as merely indicative and may vary according to pedoclimatic conditions and average yields expected. For more product information (technical data sheet, safety data sheet, dossier, etc.) and further details on doses and how to use on crops, please refer to the website [www.ilsagroup.com](http://www.ilsagroup.com)



# ILSA ORGAMIT-R

PRODUCT WITH A SPECIFIC EFFECT ON SOIL:  
INOCULATION WITH MYCORRHIZAL FUNGI

## Benefits

- It increases the volume explored by the roots.
- It promotes the uptake of phosphorus and other elements in the soil.
- It-reduces post-transplantation stress.



## Characterising substances

MYCORRHIZAE  
TRICHODERMA  
RHIZOSPHERE BACTERIA

## Composition

MYCORRHIZAE	0.1%
RHIZOSPHERE BACTERIA	10 <sup>7</sup> CFU/g
TRICHODERMA	10 <sup>4</sup> CFU/g

## Physical and chemical characteristics

AMBER YELLOW LIQUID

pH 5.1 ± 0.5

DENSITY 1.13 ± 0.02 kg/dm<sup>3</sup>

ELECTRICAL CONDUCTIVITY (E.C.) 0.54 ± 0.20 dS/m



What is it?

**ORGAMIT-R** is a product with a specific action that contains Mycorrhizae, Trichoderma and Rhizosphere Bacteria, which act at the level of the soil-plant system to improve root development and root uptake, especially in stressful conditions.

What does it do?

**ORGAMIT-R** has a multiple effect in the soil and on the roots of the plants, creating all the ideal conditions to increase uptake efficiency, in particular in exhausted and asphyxiated soils. The pool of microorganisms found in **ORGAMIT-R** rebalances the microbial flora of the rhizosphere, increasing microbiological fertility and availability of nitrogen, phosphorus and other elements which are already in the soil, but not available.

**ORGAMIT-R** promotes the harmonious development of the entire root system, both of the primary and secondary roots and the root hairs, increasing the volume of soil explored by the roots and the uptake efficiency of the plant.

How is it used?

**ORGAMIT-R** must be applied by fertigation, on tree and vegetable crops, both during the early vegetative stages and during the fruit swelling stage, when root activity is more intense. It is also ideal for new tree plantings and nursery production. It can also be applied by foliar application, at times of particular stress, improving the general well-being of the plants.

**ORGAMIT-R** can be mixed with most of the formulations available on the market, including pesticides, except for copper-based or antibacterial products that may affect the survival of the microorganisms themselves.

Dosage and method of use\*

CROP	kg/ha	NOTES
CEREALS	15-20	Early vegetative stages
TOMATO, POTATO AND OTHER VEGETABLES IN THE OPEN FIELD	15-20	After transplantation and/or after fruit-setting
TABLE AND WINE GRAPES, OLIVE TREES, CITRUS FRUIT, STONE FRUIT, POME FRUIT	15-25	Vegetative growth and/or after fruit-setting
NURSERIES	15-25	Early vegetative stages
NEW TREE PLANTINGS	10-20	After transplantation

Foliar application: 2.5-4 kg/ha, mixed with common foliar interventions, at times of stress during the whole plant cycle.  
\* The reported dosages are to be considered purely indicative and may vary according to the soil and climatic conditions and the expected average yields. For more information on the product (technical data sheet, safety data sheet, dossier, etc.) and for further information on doses and methods of use on crops, refer to the website [www.ilsagroup.com](http://www.ilsagroup.com)

# ILSA DURADA



PROMOTES SHELF-LIFE  
BIOSTIMULANT



20  
kg



## Benefits

- It extends the shelf-life of fruit and vegetables after harvesting.
- It increases the firmness of pulp and skin.
- It facilitates harvesting operations.

### Characterising substances

TRIACONTANOL FROM  
VEGETAL SOURCE

AROMATIC POLYKETIDES

NARINGIN DERIVATIVES

GALLIC ACID

CAFFEIC ACID

CHLOROGENIC ACID

VITAMIN B6

#### COMPONENTS

TRIACONTANOL  
FROM VEGETAL SOURCE

AROMATIC POLYKETIDES

POLYPHENOLIC ACIDS  
AND PHENYLPROPANOIDS

VITAMIN B6

#### ACTIONS

OXIDATION  
REDUCTION

PRESERVATION OF  
CONSISTENCY  
AND SAVOUR



## Composition

TOTAL AMINO ACIDS (% p/p)	5%
FREE AMINO ACIDS (% p/p)	1.5%
NATURAL TRIACONTANOL (mg/kg)	12.0



## Chemical and physical features

LIQUID BROWN COLOUR

pH 5.5 ± 0.5

DENSITY 1.15 ± 0.02 kg/dm<sup>3</sup>

CONDUCTIVITY E.C. 1.75 ± 0.20 dS/m



## Contains in particular

ENZYMATIC HYDROLYSATE OF FABACEAE

# SHELF-LIFE

## What is it?

**ILSADURADA** is a plant biostimulant based on enzymatic hydrolysate of Fabaceae, consisting of triacontanol of natural origin, vitamins (in particular B6) and specific plant compounds with intense antioxidant activity, which extend the shelf-life of fruit and vegetables after harvesting.

## What does it do?

**ILSADURADA** delays the phenomena of rotting, loss of firmness and taste of fruit and vegetables, phenomena governed both by processes at the cellular level (loss of turgor, degradation of pectin) and by biotic factors, which cause rotting and rancidity. The high amount of triacontanol of natural origin acts by improving the uptake efficiency of the absorbed nitrogen, promoting the transformation of nitrates and ammoniacal nitrogen into amino acids and thus preventing them from accumulating in fruits and leaves. In addition to this, the presence of vitamins, aromatic polyketides and naringin derivatives, polyphenolic acids and phenylpropanoids (gallic acid, chlorogenic acid, caffeic acid) affects secondary metabolism, thanks to the accumulation of antioxidants and the activity of enzymes that defend against oxidative stress (peroxidase, catalase), caused by the presence of free radicals.

**ILSADURADA** increases shelf-life and guarantees the final quality of fruit and vegetables, even if they are destined for distant markets or large-scale retailers.

## How is it used?

**ILSATURADA** is designed to increase the shelf-life of stone fruit, pome fruit, table grapes, citrus fruits, small fruits, tomatoes, peppers, melons and even leafy vegetables, especially fourth range products. It must be applied by foliar application, alone or mixed with other formulations, starting from the final stages of fruit development.

## Directions for use\*

CROP	kg/ha	NOTES
APRICOT, CHERRY, PEACH, NECTARINE, PLUM TREE	2-2.5	2-3 applications, every 10-12 days, from pre-veraison
LETTUCE AND OTHER CULTURES FOR FRESH VEGETABLES	1.5-2	2-3 applications, every 7 days, from 3 weeks before harvest
APPLE TREE, PEAR TREE, ACTINIDIA	2-2.5	2-3 applications, every 10-12 days, from pre-veraison
MELON, COURGETTE, CUCUMBER	1.5-2	2-3 applications, every 10-12 days, from pre-veraison
BLUEBERRY, STRAWBERRY AND OTHER SMALL FRUITS	1.5-2	2-3 applications, every 10-12 days, from pre-veraison
TOMATO, PEPPER AND OTHER SOLANACEAE	1.5-2	2-3 applications, every 10-12 days, from pre-veraison
TABLE AND WINE GRAPES	2-2.5	2-3 applications, every 10-12 days, from pre-veraison

\* The doses shown should be considered as merely indicative and may vary according to pedoclimatic conditions and average yields expected. For more product information (technical data sheet, safety data sheet, dossier, etc.) and further details on doses and how to use on crops, please refer to the website [www.ilsagroup.com](http://www.ilsagroup.com)



# ILSA TERMIKO

IMPROVES RESISTANCE TO HEAT AND WATER STRESS  
BIOSTIMULANT

## Benefits

- It prevents stress from high and low temperatures and drought.
- It promotes vegetative growth after critical environmental periods.
- It improves cell content concentrations.



## Characterising substances

PROLINE

GLYCINES

SERINE

CYSTEINE

HYDROXYPROLINE

GLUTAMIC ACID

ACTIONS	COMPONENTS	HIGH CONTENT OF FREE L-PROLINE	ANTI-STRESS L-AMINO ACIDS
	REDUCTION OF HEAT AND WATER STRESS	✓	✓
	POST-STRESS GROWTH RESTART		✓

## Chemical and physical features

LIQUID BROWN COLOUR

pH 5.5 ± 0.5

DENSITY 1.22 ± 0.02 kg/dm<sup>3</sup>

CONDUCTIVITY E.C. 1.00 ± 0.20 dS/m



## Composition

ORGANIC NITROGEN (N) (% p/p)	8.7%
of which: SOLUBLE ORGANIC NITROGEN (N) (% p/p)	8.7%
ORGANIC CARBON (C) (% p/p)	24.5%
FREE AMINO ACIDS	>11%



## Contains in particular

FLUID HYDROLYSATE ANIMAL EPITHELIUM

## TOLERANCE TO HEAT AND WATER STRESS

### What is it?

**ILSATERMIKO** is a biostimulant that acts as an effective anti-stress agent, thanks to the high content of free laevorotatory amino acids (from enzymatic hydrolysis), in particular proline, hydroxyproline, glycine, serine, glutamic acid, cysteine and other essential amino acids.

### What does it do?

**ILSATERMIKO** improves plant tolerance to environmental stresses, thanks to the action of free laevorotatory amino acids (the ones actually used by plants), which increase the concentration of cellular solutes to protect against osmotic stress, dehydration and temperature changes.

Each plant species has a certain tolerance to each environmental factor within which it can perform its vital functions. Below 0°C photosynthesis is almost non-existent, while above 50°C the protoplasm begins to coagulate. In order to be able to withstand extreme conditions, plants must implement natural mechanisms, at the cellular level, varying the concentration of solutes and osmotic pressure.

**ILSATERMIKO** supports plants during times of high thermal and water stress by triggering these natural mechanisms in advance, thus preventing negative consequences. It also acts during the ripening stages thanks to the free amino acids which regulate the transpiration of plant tissues.

### How is it used?

**ILSATERMIKO** is designed to prevent thermal and water stress in tree, horticultural, nursery and ornamental crops, thanks to its effective action both during the vegetative stage and during the ripening stage. It must be applied by foliar application before a high-risk climatic event or at times of strong stress.

### Directions for use\*

CROP	DOSE	NOTES
APRICOT, CHERRY TREE, PEACH, NECTARINE, PLUM TREE	2-2.5 kg/ha	2-3 applications, every 7-10 days, in case of stress situation and in the ripening stage
APPLE TREE, PEAR TREE, ACTINIDIA	2-2.5 kg/ha	2-3 applications, every 7-10 days, in case of stress situation and in the ripening stage
CITRUS, OLIVE TREE, BLUEBERRY AND OTHER SMALL FRUITS	1.5-2 kg/ha	2-3 applications, every 7-10 days, in case of stress situation and in the ripening stage
TABLE AND WINE GRAPE	2-2.5 kg/ha	2-3 applications, every 7-10 days, in case of stress situation and in the ripening stage
TOMATO, PEPPER, AUBERGINE	2-3 kg/ha	2-4 applications, every 8-10 days, at times of stress or greater risk during vegetative development
MELON, WATERMELON, STRAWBERRY	2.5-3 kg/ha	2-4 applications, every 8-10 days, in case of stress event or higher risk during vegetative development
GARLIC, ONION	2-3 kg/ha	2-4 applications, every 8-10 days, in case of stress event or higher risk during vegetative development
LETTUCE AND OTHER LEAFY VEGETABLES	2.5-3 kg/ha	2-4 applications, every 8-10 days, at times of stress or greater risk during vegetative development
ORNAMENTAL AND FOREST NURSERIES	50-100 g/100 l water	2-4 applications 8-10 days, in full vegetative development

\*The doses shown should be considered as merely indicative and may vary according to pedoclimatic conditions and average yields expected. For more product information (technical data sheet, safety data sheet, dossier, etc.) and further details on doses and how to use on crops, please refer to the website [www.ilsagroup.com](http://www.ilsagroup.com)

# ILSA C-on

BIOSTIMULANT



## Benefits

- It has a rooting effect and it helps overcome stress due to transplantation
- It increases the yield and quality of vegetable crops.
- It reduces the accumulation of nitrates in leaves and fruits.



1  
kg

5  
kg



## Characterising substances

TRIACONTANOL FROM  
VEGETAL SOURCE

AMINO ACIDS FROM  
VEGETAL SOURCE

PLANT EXTRACTS WITH A  
HORMONE-LIKE ACTION

ACTIONS	COMPONENTS	TRIACONTANOL FROM VEGETAL SOURCE	AMINO ACIDS FROM VEGETAL SOURCE	PLANT EXTRACTS WITH A HORMONE-LIKE ACTION
	STIMULATION OF PRIMARY AND SECONDARY METABOLISM	✓	✓	✓
	INCREASED YIELD AND FINAL QUALITY	✓	✓	✓

## Chemical and physical features

LIQUID BROWN COLOUR

pH 5.0 ± 0.5

DENSITY 1.15 ± 0.02 kg/dm<sup>3</sup>

CONDUCTIVITY E.C. 1.50 ± 0.20 dS/m



## Composition

TOTAL AMINO ACIDS (% p/p)	5%
FREE AMINO ACIDS (% p/p)	1.5%
ORGANIC CARBON (C) (% p/p)	10%
NATURAL TRIACONTANOL (mg/kg)	10.0



## Contains in particular

ENZYMATIC HYDROLYSATE OF FABACEAE

## What is it?

**ILSAC-ON** is an innovative natural biostimulant, based on enzymatic hydrolysate of Fabaceae and containing natural triacontanol and other plant compounds with a biostimulating effect. It acts as a natural “hormone-like” product and it is characterised by its intense biological activity.

## What does it do?

**ILSAC-ON** affects numerous metabolic processes and provides several benefits to plants and to the farmer. It stimulates the increase of biomass and photosynthetic activity in crops, which results in increased transfer of metabolites into the fruits. As a result, it helps increase the sugar content of wine grapes, the oil yield of olives and other oilseeds and, in general, it increases the final quality of production. Thanks to the perfect balance between vegetative and reproductive stages, **ILSAC-ON** allows a higher final yield by regulating the distribution of nutrients and promoting their uptake by the plant. The benefits of **ILSAC-ON** are due to the action of free laevorotatory amino acids, triacontanol and other plant extracts with a biostimulating effect that affect the activity of numerous enzymes involved in carbon metabolism and nitrogen uptake and assimilation. It therefore increases the efficiency of use of water and absorbed nutrients and this promotes a nutritional balance that improves the well-being of the plants, limiting the negative effects of environmental, thermal, and water stresses, and in particular those caused by excess salinity. In this way, the plants can always express their genetic potential to the fullest.

## How is it used?

**ILSAC-ON** must be applied by foliar application during periods of increased vegetative activity. Its broad spectrum of action and its perfect miscibility with other commercial formulations allow **ILSAC-ON** to be applied also during pesticide treatments, during the main phenological phases.

## Directions for use\*

CROP	DOSE	NOTES
MAIZE AND OTHER CEREALS	1.5-2 kg/ha	Tillering - start of stem elongation
OLIVE TREE	1.5-2.5 kg/ha	5 applications at floral buttons, flowering, fruit setting, fruit swelling, veraison
TOMATO, PEPPER, AUBERGINE, MELON	1.5-2.5 kg/ha	3-4 applications, every 10-12 days, starting from 15 days after transplantation
POME FRUITS, STONE FRUITS, ACTINIDIA, CITRUS	2-2.5 kg/ha	2-4 applications, every 10-15 days, starting when the length of the shoots are 10-15 cm
TABLE AND WINE GRAPES	1.5-2.5 kg/ha	3-4 applications, every 10-15 days, starting from pre-flowering
TURF-PLANTS, FLOWERS, POT-PLANTS, GARDEN NURSERIES	1 kg/1.000-1.500 m <sup>2</sup>	2-4 applications, every 8-10 giorni, during full vegetative development

\* The doses shown should be considered as merely indicative and may vary according to pedoclimatic conditions and average yields expected. For more product information (technical data sheet, safety data sheet, dossier, etc.) and further details on doses and how to use on crops, please refer to the website [www.ilsagroup.com](http://www.ilsagroup.com)

# ILSA **STIM**+

BIOSTIMULANT



1  
kg

5  
kg



## Benefits

- It promotes the uptake of nutrients.
- It increases resistance to environmental stress.
- It anticipates production and increases the yield and final quality.

### Characterising substances

TRIACONTANOL FROM  
VEGETAL SOURCE

AMINO ACIDS FROM  
VEGETAL SOURCE

SULPHURATED  
COMPOUNDS

PLANT EXTRACTS

ACTIONS	COMPONENTS	TRIACONTANOL FROM VEGETAL SOURCE	AMINO ACIDS FROM VEGETAL SOURCE	SULPHURATED COMPOUNDS AND OTHER PLANT EXTRACTS
	PHOTOSYNTHESIS EFFICIENCY	✓	✓	✓
	STIMULATION OF CELL ENLARGEMENT	✓		✓

### Composition

TOTAL NITROGEN (N) (% p/p)	1%
of which: ORGANIC NITROGEN (N) (% p/p)	1%
TOTAL AMINO ACIDS (% p/p)	6%
FREE AMINO ACIDS (%p/p)	1.5%
ORGANIC CARBON (C) (% p/p)	10%
TOTAL SULPHUR TRIOXIDE (SO <sub>3</sub> ) (mg/kg)	6,000
NATURAL TRIACONTANOL (mg/kg)	8

### Chemical and physical features

LIQUID BROWN COLOUR

pH 5.0 ± 0.5

DENSITY 1,15 ± 0,02 kg/dm<sup>3</sup>

CONDUCTIVITY E.C. 1.60 ± 0.20 dS/m



### Contains in particular

ENZYMATIC HYDROLYSATE OF FABACEAE





## What is it?

**ILSASTIM+** is a plant biostimulant based on Fabaceae enzymatic hydrolysate. It contains natural Triacontanol, sulphur compounds and free amino acids from vegetal sources, which have multiple positive effects on plants.

## What does it do?

The presence of organic compounds extracted through the enzymatic hydrolysis process (FCEH®) allows **ILSASTIM+** to stimulate young seedlings' root and vegetative development.

Furthermore, **ILSASTIM+** stimulates the increase of plant biomass and activates the enzymes that regulate the nitrogen absorbed (Nitrate reductase, Nitrite reductase, NADH), reducing the excess of nitrates in plant tissues - a fundamental aspect of leafy and fresh-cut vegetables.

The positive action on photosynthesis, combined with the supply of amino acids and active organic molecules, allows **ILSASTIM+** to improve the final yield and quality as well.

## How is it used?

**ILSASTIM+** is suitable for vegetable crops. Applied in fertigation, at low doses and starting from 8-10 days after sowing/transplanting, **ILSASTIM+** acts as a real "rooting".

Applied by foliar application, both during the first vegetative growth and during the development of fruits or vegetal biomass, **ILSASTIM+** improves the yield and the quality of the final production, particularly for fruit and leafy vegetables and increases plants' resistance to climatic stress.

## Directions for use\*

CROP	DOSE	NOTES
CAULIFLOWER	1.5-2 kg/ha	3-4 applications, every 10-12 days, starting 15 days after the transplantation
OTHER CABBAGES	1.5-2 kg/ha	4-5 applications every 8-12 days, starting one week after the transplantation
ARTICHOKE, LETTUCE, ROCKET, SPINACH AND OTHER LEAF VEGETABLES	2.5-3 kg/ha	4-5 applications every 8-12 days, starting one week after the transplantation
FLORAL CROPS, FOREST NURSERIES AND ORNAMENTALS	1 kg/ 1.500 m <sup>2</sup>	2-4 applications, every 8-10 days, during the whole vegetative growth
BEAN, GREEN BEAN AND OTHER LEGUMINOUS	1.5-2 kg/ha	3-4 applications, every 10-12 days, starting 15 days after the transplantation
MELON, WATERMELON, CUCUMBER, ZUCCHINO, STRAWBERRY	2-2.5 kg/ha	3-4 applications, every 10-12 days, starting 15 days after the transplantation
POTATO	1.5-2 kg/ha	3-4 applications, every 10-12 days, starting 15 days after the transplantation
TOMATO, PEPPER, EGGPLANT	2-2.5 kg/ha	3-4 applications, every 10-12 days, starting 15 days after the transplantation
TOMATO, PEPPER, MELON, ZUCCHINO AND OTHER FRUIT VEGETABLES IN THE GREENHOUSE	0.3-0.4 kg/ 1.000 m <sup>2</sup>	3-4 applications, every 10-12 days, starting 15 days after the transplantation
PROFESSIONAL TURF	1 kg/1.500 m <sup>2</sup>	2-4 applications, every 8-10 days, during the whole vegetative growth

In fertigation: 3-4 kg / ha, for 2-3 applications every 5-7 days, starting from transplanting, to increase root development.

\* The doses shown should be considered as merely indicative and may vary according to pedoclimatic conditions and average yields expected. For more product information (technical data sheet, safety data sheet, dossier, etc.) and further details on doses and how to use on crops, please refer to the website [www.ilsagroup.com](http://www.ilsagroup.com)

# ILSA POLICOS

RADICAL BIOSTIMULANT



5  
kg

20  
kg

250  
kg

1200  
kg



## Benefits

- It promotes the uptake of nutrients.
- It increases resistance to environmental stress.
- It anticipates production and increases the yield and final quality.

### Characterising substances

TRIACONTANOL FROM  
VEGETAL SOURCE

BETAINES

POLYSACCHARIDES

POTASSIUM

COMPONENTS		TRIACONTANOL FROM VEGETAL SOURCE	POTASSIUM AND POLYSACCHARIDES	BETAINES
ACTIONS	STIMULATION OF PHYSIOLOGICAL PROCESSES	✓	✓	
	TOLERANCE TO STRESS	✓	✓	✓

## Chemical and physical features

LIQUID BROWN COLOUR

pH 7.0 ± 1.0

DENSITY 1,28 ± 0,02 kg/dm<sup>3</sup>

CONDUCTIVITY E.C. 3.70 ± 0.20 dS/m



## Composition

ORGANIC NITROGEN (N) (% p/p)	2,5%
ORGANIC CARBON (C) (% p/p)	17,5%
POTASSIUM OXIDE (K <sub>2</sub> O) (% p/p)	6%
BETAINES	1%
NATURAL TRIACONTANOL (mg/kg)	10,0



## Contains in particular

ALFALFA FLUID EXTRACT, SEAWEED AND MOLASSES

## What is it?

**ILSAPOLICOS** is a root biostimulant of plant origin based on liquid alfalfa extract, algae and molasses and with natural triacontanol extracted using SFE® technology (Supercritical Fluids Extraction).

## What does it do?

The action of **ILSAPOLICOS** is clearly expressed in conditions of abiotic stress, excess saline, temperature changes and other environmental causes that can cause limitations in root, vegetative and production development. The presence of natural triacontanol, polysaccharides, betaines and potassium, all strictly of plant origin, positively stimulates the essential physiological processes of the plants, both by increasing tolerance to abiotic stresses and by activating enzymes that regulate the rooting, cell multiplication, flowering, fruit setting and fruit development stages. **ILSAPOLICOS** promotes the early entry into production of crops and, thanks to its physiological rebalancing action, it promotes the uptake of nutrients, thus improving nutritional efficiency.

In greenhouses and at high temperatures, **ILSAPOLICOS** plays an essential role in keeping plants more compact, shortening internodes and increasing their production potential.

## How is it used?

**ILSAPOLICOS** must be applied by fertigation and guarantees yield and final quality. It is a root biostimulant which, when added regularly to other fertilisers in the fertigation solution, stimulates the natural metabolism of the plants from the early stages right through to fruit formation, so it can be applied during all stages of the phenological cycle. **ILSAPOLICOS** acts on plant physiology and can be applied universally to all crops.

## Directions for use\*

CROP	DOSE	NOTES
TOMATO, PEPPER, AUBERGINE	5-10 kg/ha	Starting from the first fertigation treatments , 2-4 applications
STRAWBERRY, MELON, COURGETTE, CUCUMBER	5-10 kg/ha	Starting from the first fertigation treatments , 2-4 applications
LATTUCE, SPINACH AND LEAFY VEGETABLES	5-10 kg/ha	Starting from the first fertigation treatments , 2-4 applications
CHERRY TREE, OLIVE TREE AND STONE FRUIT	5-10 kg/ha	Starting from the first fertigation treatments , 2-4 applications
APPLE TREE, PEAR TREE, ACTINIDIA	5-10 kg/ha	Starting from the first fertigation treatments , 2-4 applications
BLUEBERRY, RASPBERRY, SMALL FRUITS	5-10 kg/ha	Starting from the first fertigation treatments , 2-4 applications
TABLE AND WINE GRAPES	5-10 kg/ha	Starting from the first fertigation treatments , 2-4 applications
NURSERY FLOWER AND ORNAMENTAL CROPS	250-300 g/ 100 l water	Starting from the first fertigation treatments, 2-4 applications

\* The doses shown should be considered as merely indicative and may vary according to pedoclimatic conditions and average yields expected. For more product information (technical data sheet, safety data sheet, dossier, etc.) and further details on doses and how to use on crops, please refer to the website [www.ilsagroup.com](http://www.ilsagroup.com)

# ILSAMIN<sup>N90</sup>

BIOSTIMULANT

## Benefits

- It helps overcome moments of stress and balances nutritional activity.
- It increases yield and final quality.
- It helps recover damaged plant tissue.



1  
kg

5  
kg

20  
kg

250  
kg

1200  
kg



## Chemical and physical features

LIQUID COLOUR AMBER YELLOW

pH 5.5 ± 0.5

DENSITY 1.22 ± 0.02 kg/dm<sup>3</sup>

CONDUCTIVITY E.C. 1.00 ± 0.20 dS/m



**GELAMIN<sup>®</sup>**  
fluid gelatine for agricultural use

## Composition

TOTAL NITROGEN (N) (% p/p)	8.9%
SOLUBLE ORGANIC NITROGEN (N) (% p/p)	8.9%
ORGANIC CARBON (C) (% p/p)	25%
FREE AMINO ACIDS > 10% FOR THE MOST PART OF THE L-TYPE	

## What is it?

**ILSAMIN N90** is a foliar biostimulant based on amino acids and peptides with a strong balancing effect on plant activity.

## What does it do?

Thanks to the high percentage of free amino acids and low molecular weight oligo-peptides (< 600 Da), **ILSAMIN N90** stimulates plant metabolism providing a preventive action and rapid vegetative recovery in situations of abiotic stress.

**ILSAMIN N90** promotes rapid vegetative development in the early stages and the uptake of macro-, meso- and micro-nutrients.

In addition to this, the high content of organic nitrogen, together with free amino acids and peptides, promotes better fruit development and increases the final quality characteristics of the fruit in terms of size and dry matter. The regular use of **ILSAMIN N90** helps plants to keep all biochemical pathways fully active at all times, both in normal conditions and at critical times caused by external stresses.

## How is it used?

**ILSAMIN N90** must be used by foliar application on cereal, vegetable and fruit crops, where it improves both the quantity and quality of production. It can be mixed with other foliar products and it improves the overall result of the applications.

### Directions for use\*

CROP	DOSE	NOTES
STONE FRUITS	2-4 kg/ha	Every 10-15 days from pre-flowering to veraison
STRAWBERRY	0.5-1 kg/ha	2-4 applications, every 8-10 days, during full vegetative development
DURUM AND SOFT WHEAT, RICE	3-5 kg/ha	Tillering - start of stem extension
NEW TREES PLANTATIONS, LAWNS, FLORAL AND ORNAMENTAL CROPS, ORNAMENTAL AND FOREST NURSERIES	1 kg/1.000-1.500 m <sup>2</sup>	2-3 applications, every 8-10 days, during the early stages
OLIVE TREE	2-3 kg/ha	2-4 applications, every 8-10 days, during full vegetative development
VEGETABLES	1-2 kg/ha	2-3 applications, every 7-10 days, during the most critical stages
POTATO	1-2 kg/ha	Every 10-15 days from pre-flowering to veraison
POME FRUITS	2-4 kg/ha	Every 12-15 days from the full vegetative growth to fruit setting
TABLE AND WINE GRAPES	2-3 kg/ha	2-3 applications, every 7-10 days, during the most critical stages
LAWNS, FLORAL AND ORNAMENTAL CROPS, NURSERIES	1 kg/1.000-1.500 m <sup>2</sup>	1-2 applications to stimulate tillering

\* The doses shown should be considered as merely indicative and may vary according to pedoclimatic conditions and average yields expected. For more product information (technical data sheet, safety data sheet, dossier, etc.) and further details on doses and how to use on crops, please refer to the website [www.ilsagroup.com](http://www.ilsagroup.com)



# MACRILS@



MACROCYSTIS INTEGRIFOLIA SEAWEED-BASED NITROGEN FLUID EXTRACT  
BIOSTIMULANT



1  
kg

5  
kg

20  
kg



## Benefits

- Stimulates cellular distension process and vegetative tissue development (leaves and fruits).
- Promotes the plant's growth and vegetative-productive development.
- Activates the plant's response mechanisms to abiotic stress.

## Characterising substances

**MANNITOL AND ALGINATES**

**GIBBERELLINS AND AUXINS ARE 100% FROM THE VEGETAL SOURCE**

**VITAMINS, BETAINES AND POLYAMINES**

ACTIONS	COMPONENTS	MANNITOL AND ALGINATES	GIBBERELLINS AND AUXINS ARE 100% FROM THE VEGETAL SOURCE	VITAMINS, BETAINES AND POLYAMINES
	HORMONE-LIKE WITH POSITIVE ACTION ON VEGETATIVE DEVELOPMENT	✓	✓	
	ANTI-STRESS AND ANTIOXIDANT	✓		✓

## Chemical and physical features

LIQUID BROWN COLOUR

pH 4,5 ± 0,5

DENSITY 1,11 ± 0,10 kg/dm<sup>3</sup>

CONDUCTIVITY E.C. 1,50 ± 0,30 dS/m



## Contains in particular

MACROCYSTIS SEAWEED EXTRACT

## Composition

ORGANIC NITROGEN (N) WATER SOLUBLE 1,6%

ORGANIC (C) CARBON 10,4%

POTASSIUM (K<sub>2</sub>O) WATER SOLUBLE 2,0%

GIBBERELLINS >6 ppm

AUXINS 0,3 ppm



## What is it?

**MACRILS®** is a liquid biostimulant from the vegetal matrix and is allowed in organic farming. The product is obtained through an innovative technological extraction process characterised by high environmental sustainability named Cold State Cell Disruption (CSCD®). Through the physical process, the Chilean seaweed of the genus *Macrocystis* (which spreads on the southern coast) is extracted. **MACRILS®** is rich 100% in natural growth regulators, mannitol, alginates, vitamins, polyamines, bioactive molecules and nutrients.

## What does it do?

The strong bio-stimulating action of each of the natural molecules contained in **MACRILS®** makes it unique in the reference segment in comparison to other similar products.

On one side, the natural growth regulators (gibberellins and auxins) have a “hormone-like” action with a positive and direct effect on the plant’s growth and vegetative-productive development (leaf and root systems and productive organs).

On the other side, the vegetal biostimulant is rich in alginates and mannitol which have an ion-capturing action (e.g., Ca+) and consequent active transport within the various plant’s organs, currently underway formation and development (roots, meristematic apices, flowers and fruits).

The presence of vitamins (E and D), polyamines and natural amino acids have an antioxidant action to contrast free radicals and regulate plant transpiration by increasing resistance to osmotic, water and thermal stress.

Finally, **MACRILS®** has a positive effect on the new shoots, flowers, and fruits underway formation and development.

## How is it used?

**MACRILS®** could be applied by the foliar application during the main crop’s phenological stage – vegetative and swelling fruits of vegetables, grapevine, fruits and ornamentals. **MACRILS®** is characterised by perfect miscibility with other commercial products (fertilisers and chemical products) and therefore, can be used during foliar and pesticide treatments as well.

## Directions for use\*

CROP	DOSE	NOTES
VEGETABLES (TOMATO, PEPPER, MELON, COURGETTE, ETC.)	1.5-2.5 kg/ha	2-3 applications, every 7-10 days, in the vegetative stage and during fruit swelling
SMALL FRUITS (BLUEBERRY, RASPBERRY, STRAWBERRY, RED/BLACK CURRANT, BLACKBERRY, ETC.)	1.5-2 kg/ha	2-3 applications, every 7-10 days, in the vegetative stage and during fruit swelling
POME FRUITS (APPLE, PEAR, QUINCE, MEDLAR, ETC.)	2-3 kg/ha	2-3 applications, every 10-15 days, in the vegetative stage and during fruit swelling
STONE FRUITS (PEACH, NECTARINE, APRICOT, CHERRY, ETC.)	2-3 kg/ha	2-3 applications, every 10-15 days, in the vegetative stage and during fruit swelling
OLIVE	2-3 kg/ha	2-3 applications, every 15-20 days, from pre-flowering to fruit swelling
WINE AND TABLE GRAPE	2-3 kg/ha	2-3 applications, every 15-20 days, from pre-flowering to fruit swelling
FLORAL AND ORNAMENTAL PLANTS	150-250 ml/hl	2-4 applications, every 7-10 days, during the crop cycle
TROPICAL CROPS (MANGO, AVOCADO, BANANA, ETC.)	2-3 kg/ha	2-3 applications, every 15-20 days, from pre-flowering to fruit swelling

\* The doses shown should be considered as merely indicative and may vary according to pedoclimatic conditions and average yields expected. For more product information (technical data sheet, safety data sheet, dossier, etc.) and further details on doses and how to use on crops, please refer to the website [www.ilsagroup.com](http://www.ilsagroup.com).

# SPLINTER **NEW**

CO-FORMULANT

1  
kg

5  
kg

20  
kg

250  
kg

1200  
kg



## Benefits

- It increases the efficacy of the product it is mixed with.
- It has a wetting and adhesive effect.
- It has a nutritional and anti-stress effect.

## Chemical and physical features

LIQUID GREEN COLOUR

pH  $5,5 \pm 0,5$

DENSITY  $1,16 \pm 0,02 \text{ kg/dm}^3$

CONDUCTIVITY E.C.  $0,70 \pm 0,20 \text{ dS/m}$



**GELAMIN®**

fluid gelatine for agricultural use

## Composition

TOTAL NITROGEN (N) (% p/p) 7%

of which: SOLUBLE NITROGEN (N) (% p/p) 7%

ORGANIC CARBON (C) (% p/p) 20%

HYDROXYPROLINE 0.75%

TOTAL AMINO ACIDS >45%

## What is it?

**SPLINTER NEW** is a product with a specific co-formulant action. It is a high molecular weight protein hydrolysate, with a high content of organic nitrogen and amino acids and peptides from enzymatic hydrolysis.

## What does it do?

**SPLINTER NEW** is a “product with a specific action on fertilisers”, in other words, when mixed with other fertilisers, it increases their efficacy. The oligo-peptides of which it is composed have a complexing action with other mixed substances, promoting their foliar uptake by the plants.

**SPLINTER NEW** also has a wetting and adhesive effect, so it increases the wetted surface of the treated leaves, prevents the solution from slipping and prevents it from evaporating.

In addition to this, the high content of totally organic nitrogen and amino acids (in the form of oligo-peptides), also provides a nutritional and anti-stress effect on plants, which is essential for prompt vegetative growth after any plant protection treatment.

Finally, **SPLINTER NEW** has a disintegrating effect on the honeydew substances produced by psyllids and aphids and an effective cleansing effect.

## How is it used?

**SPLINTER NEW** must be applied by foliar application on cereals and other extensive, vegetable and tree crops, during any foliar treatment, mixed with other fertilisers and with plant protection products.

It improves the efficacy of the applications and it positively stimulates plant metabolism.

## Directions for use\*

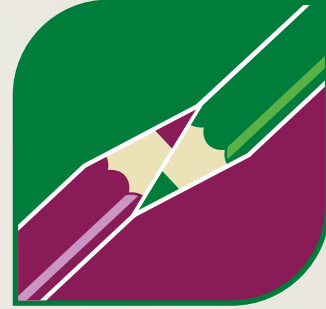
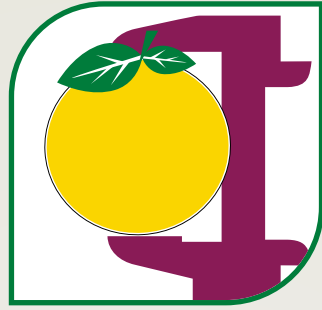
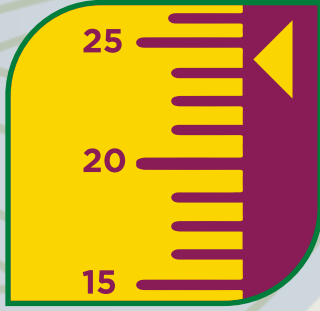
CROP	DOSE	NOTES
STONE FRUITS, POME FRUITS, ACTINIDIA	2-4 kg/ha	Mixed with common foliar products (PPPs, PGRs, Fertilisers)
WHEAT, RICE AND OTHER CEREALS	2-2.5 kg/ha	Mixed with common foliar products (PPPs, PGRs, Fertilisers)
HAZELNUT, WALNUT, BLUEBERRY AND SMALL FRUITS	3-5 kg/ha	Mixed with common foliar products (PPPs, PGRs, Fertilisers)
NEW TREES PLANTATION, LAWNS, ORNAMENTAL AND FLORAL CROPS, ORNAMENTAL AND FOREST NURSERIES	1 kg/5.000 m <sup>2</sup>	Mixed with common foliar products (PPPs, PGRs, Fertilisers)
FRUITS, LEAFY VEGETABLES AND OTHER VEGETABLES	2-3 kg/ha	Mixed with common foliar products (PPPs, PGRs, Fertilisers)
FORAGE CROPS	1.5-3 kg/ha	Mixed with common foliar products (PPPs, PGRs, Fertilisers)
TABLE AND WINE GRAPE, OLIVE TREE	2-3 kg/ha	Mixed with common foliar products (PPPs, PGRs, Fertilisers)

\* The doses shown should be considered as merely indicative and may vary according to pedoclimatic conditions and average yields expected. For more product information (technical data sheet, safety data sheet, dossier, etc.) and further details on doses and how to use on crops, please refer to the website [www.ilsagroup.com](http://www.ilsagroup.com)

# PRODUCTS FOR SUSTAINABLE AND CONVENTIONAL FARMING







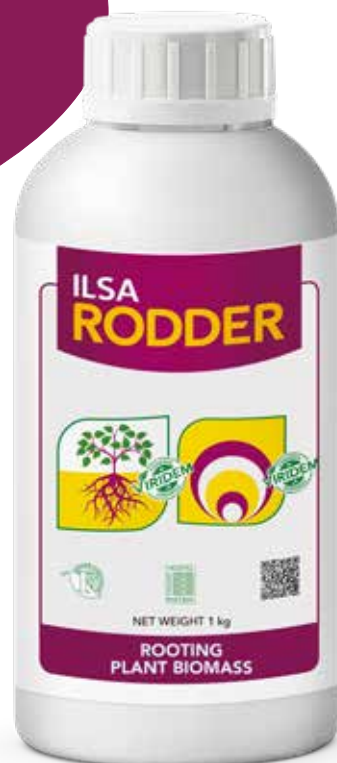
# ILSA RODDER



STIMULATES ROOTING AND  
PLANT BIOMASS GROWTH

## Benefits

- It stimulates root growth and development.
- It prepares the plant for better flowering and fruit setting.
- It boosts the absorption of nutrients and water.



1  
kg



## Characterising substances

HUMIC SUBSTANCES

PHOSPHORUS

TYROSINE

GLUTAMIC ACID

ORGANIC NITROGEN

ACTIONS	COMPONENTS	HUMIC SUBSTANCES	HIGHLY ASSIMILABLE PHOSPHORUS	AMINO ACIDS FROM ENZYMATIC HYDROLYSIS
	ROOT DEVELOPMENT	✓	✓	✓
	VEGETATIVE DEVELOPMENT AND ANTI-STRESS FUNCTION	✓		✓

## Composition

TOTAL NITROGEN (N) (% p/p)	5%
of which: ORGANIC NITROGEN (N) (% p/p)	2.5%
AMMONIA NITROGEN (N) (% p/p)	2.5%
TOTAL PHOSPHORUS PENTAOXIDE (P <sub>2</sub> O <sub>5</sub> )	9%
ORGANIC CARBON (C) (% p/p)	7%



## Chemical and physical features

LIQUID BROWN COLOUR

pH 6.5 ± 0.5

DENSITY 1.17 ± 0.02 kg/dm<sup>3</sup>

CONDUCTIVITY E.C. 2.25 ± 0.20 dS/m



## Contains in particular

HUMIC EXTRACTS

## What is it?

**ILSARODDER** is a bioactivator for plant rooting and growth based on protein nitrogen, highly soluble phosphorus, amino acids obtained from enzymatic hydrolysis and humic substances that promote cell multiplication and vegetative development.

## What does it do?

**WHAT IT DOES FOR ROOTING:** it contains humic substances that promote and stimulate the root development in the soil and keep roots vigorous. The presence of nitrogen and phosphorus also promotes vegetative growth and the thickening of the tissues being formed, resulting in more vigorous plants that can overcome adverse situations.

**ILSARODDER** acts as an anti-stress agent during repotting and/or after transplanting and in situations of environmental stress (drought, high temperatures, etc.).

**ILSARODDER** is the best nutritional solution to promote the development of well anchored root systems in vegetable (fruit and leafy), industrial and ornamental crops.

**WHAT IT DOES FOR VEGETATIVE GROWTH:** it contains amino acids including tyrosine and glutamic acid, etc., which, combined with organic nitrogen, promote protein synthesis and consequently the development of new vegetative shoots even in conditions of abiotic stress. The presence of phosphorus also promotes the thickening and lignification of vegetative tissues.

## How is it used?

**ILSARODDER** is suitable for foliar applications on fourth range vegetable crops, nursery plants during vegetative growth and for other crops of agricultural interest in the early stages of development.

## Directions for use\*

CROP	DOSE	NOTES
ASPARAGUS	2-3 kg/ha	2-3 applications, every 4-7 days, from early shoot emergence
CAULIFLOWER AND OTHER CABBAGES	2-2.5 kg/ha	3 applications, every 8-10 days, from post-transplanting
FENNEL	2.5-3 kg/ha	3 applications, every 8-10 days, from post-transplanting
ARTICHOKE	2-2.5 kg/ha	2-3 applications, every 8-10 days, from growth restart
SUGAR BEET, RAPESEED	2-3 kg/ha	2-3 applications, in the early stages
LETTUCE AND OTHER LEAF VEGET. CROPS	2-2.5 kg/ha	2-3 applications, every 4-7 days, in the early stages
TOMATO, PEPPER, MELON, POTATO	2.5-4 kg/ha	2-3 applications, every 8-10 days, during the early stages
VEGETABLE CROPS IN THE GREENHOUSE	0.3-0.4 kg/1.000 m <sup>2</sup>	2-3 applications, in the early stages
FLOWER AND ORNAMENTAL CROPS	100 g/100 l water	When applied in the early stages
TURF-PLANTS, FLOWERS, POT-PLANTS, GARDEN NURSERIES	1 kg/1.500-2.000 m <sup>2</sup>	2-3 applications in root growth phases
LEAFY VEGETABLES	1-2 kg/1.000 m <sup>2</sup>	Every 6-8 days from the first true leaves

\* The doses shown should be considered as merely indicative and may vary according to pedoclimatic conditions and average yields expected. For more product information (technical data sheet, safety data sheet, dossier, etc.) and further details on doses and how to use on crops, please refer to the website [www.ilsagroup.com](http://www.ilsagroup.com)

# ILSA FORMA

PROMOTES FRUIT DEVELOPMENT



## Benefits

- It stimulates cell division and elongation.
- It increases the size of fruits and/or vegetables.
- It increases the tolerance of plants to stress during fruit growth.

### Characterising substances

GLYCINE  
ALANINE  
ASPARTIC ACID  
VALINE  
LEUCINE  
MANNITOL  
ALGINATES

ACTIONS	COMPONENTS	AMINO ACIDS FROM ENZYMATIC HYDROLYSIS	MANNITOL AND ALGINATES	PEPTIDES AND PROTEINS
	INCREASE IN CELL DIVISION AND ELONGATION	✓	✓	
	NUTRITIONAL BALANCE UP TO RIPENING	✓		✓

### Chemical and physical features

LIQUID BROWN COLOUR

pH 5.0 ± 0.5

DENSITY 1,17 ± 0,02 kg/dm<sup>3</sup>

CONDUCTIVITY E.C. 1.25 ± 0.20 dS/m



### Composition

TOTAL NITROGEN (N) (% p/p)	5%
of which: ORGANIC NITROGEN (N) (% p/p)	5%
ORGANIC CARBON (C) (% p/p)	18%



### Contains in particular

FLUID YEAST EXTRACT CONTAINING BROWN ALGAE

CO-FORMULANT FROM ENZYMATIC HYDROLYSIS AND SUGARS

# SIZE

## What is it?

**ILSAFORMA** is a biopromoter of fruit growth based on amino acids obtained from enzymatic hydrolysis, a fluid yeast extract containing brown algae and polysaccharides.

## What does it do?

**ILSAFORMA** contains amino acids including glycine, aspartic acid, valine, alanine, leucine, isoleucine, lysine, etc. which are essential for the formation and growth of new plant tissues, during the cell division and elongation phases. The presence of polysaccharides (Mannitol and alginates) has a strong anti-stress action in conditions of high summer temperatures, drought and salinity. These nutrients contained in the formulation, associated with proper water and nutritional management, promote the formation and growth of fruits.

**ILSAFORMA** has a hormone-like effect that activates the formation and growth process of fruits and/or vegetables. **ILSAFORMA** ensures that fruits reach commercially superior size classes, by limiting stress induced by physiological imbalances or adverse environmental conditions.

## How is it used?

**ILSAFORMA** is suitable for foliar applications on fruit crops from the post-setting stage until the beginning of veraison.

## Directions for use\*

CROP	kg/ha	NOTES
APRICOT TREE, CHERRY TREE, PEACH TREE, NECTARINE, PLUM TREE	2.5-3.5	Every 10-15 days from post-fruit setting to veraison
APPLE TREE, PEAR TREE, ACTINIDIA	2.5-3	3-4 applications, every 7 days, in post-flowering
CRANBERRY, RASPBERRY AND OTHER SMALL FRUITS	2-2.5	2-4 applications, every 10-12 days, from fruit set
CITRUS	2.5-3	2-4 applications, every 10-12 days, from fruit set
TABLE GRAPES	2.5- 3.5	2-4 applications, every 10-12 days, from fruit set/early cell elongation

\* The doses shown should be considered as merely indicative and may vary according to pedoclimatic conditions and average yields expected. For more product information (technical data sheet, safety data sheet, dossier, etc.) and further details on doses and how to use on crops, please refer to the website [www.ilsagroup.com](http://www.ilsagroup.com)



# ILSA SHAPE

BALANCES FRUIT DEVELOPMENT  
AND SIZE



20  
kg



## Benefits

- It activates fruit cell multiplication.
- It increases the value of the final production.
- It balances physiological activities during the ripening stages.

## Characterising substances

GLUTAMIC ACID

ASPARTIC ACID

BETAINES

OLIGOSACCHARIDES

ACTIONS	COMPONENTS	AMINO ACIDS AND PEPTIDES FROM ENZYMATIC HYDR.	BETAINES	OLIGOSACCHARIDES
	INCREASE FRUIT SIZE	✓		✓
	NUTRITIONAL AND PHYSIOLOGICAL BALANCE	✓	✓	✓

## Chemical and physical features

LIQUID BROWN COLOUR

pH 6.0 ± 0.5

DENSITY 1.19 ± 0.02 kg/dm<sup>3</sup>

CONDUCTIVITY E.C. 1.10 ± 0.20 dS/m



## Composition

TOTAL NITROGEN (N) (% p/p)	5%
of which: ORGANIC NITROGEN (N) (% p/p)	5%
ORGANIC CARBON (C) (% p/p)	20%



## Contains in particular

CO-FORMULANT FROM ENZYMATIC HYDROLYSIS

PLANT EXTRACTS WITH HIGH BETAINES CONTENT

# SIZE

## What is it?

**ILSASHAPE** is a bioactivator for fruit swelling based on amino acids derived from an enzymatic hydrolysis process, betaines and polysaccharides which promotes for fruits and vegetables growth.

## What does it do?

**ILSASHAPE** is rich in amino acids obtained from enzymatic hydrolysis, including glutamic acid, aspartic acid, proline, etc. which promote protein synthesis, cell multiplication and increase fruits swelling. The presence of betaine also helps maintain a physiological state of turgidity in the cells, protecting them from osmotic stress.

**ILSASHAPE** increases the final quality of harvested fruit and vegetables, characterised by a larger and more uniform size, and reduces production waste.

Its composition, based on oligosaccharides, plant extracts and specific amino acids for the fruit swelling stage, allows **ILSASHAPE**, once applied, to promote an increase in fruit size. The presence of bioactive molecules also promotes regular metabolic activities at the cellular level and regulates transpiration, thus limiting situations of environmental and physiological stress.

**ILSASHAPE** increases the final value of harvested fruits and vegetables.

## How is it used?

**ILSASHAPE** is suitable for foliar applications on vegetable and fruit crops starting from the post-setting stage until the beginning of veraison.

## Directions for use\*

CROP	DOSE	NOTES
WATERMELON, MELON, CUCUMBER, COURGETTE	2.5 - 3 kg/ha	2-4 applications, every 10-15 days, from the fruit swelling stage
STRAWBERRY	2.5 - 3 kg/ha	2-4 applications, every 10-12 days, starting from post-transplantation
TOMATO	2.5 - 3 kg/ha	2-3 applications, every 7-10 days, from fruit setting
PEPPER, AUBERGINE	2-2.5 kg/ha	2-4 applications, every 10-12 days, starting from post-transplantation
STRAWBERRY, MELON, GREENHOUSE COURGETTE	0.3-0.4 kg/1,000 m <sup>2</sup>	2-3 applications, every 7-8 days, from the fruit swelling stage
TOMATO AND OTHER GREENHOUSE SOLANACEAE	0.3-0.4 kg/1,000 m <sup>2</sup>	2-3 applications, every 7-10 days, from fruit setting
STONE FRUITS, POME FRUITS	2.5-3 kg/ha	3-4 applications, every 7 days, in post-flowering
TABLE GRAPES, ACTINIDIA, CITRUS	2-3 kg/ha	3-4 applications, every 10-12 days, starting from transplantation

\* The doses shown should be considered as merely indicative and may vary according to pedoclimatic conditions and average yields expected. For more product information (technical data sheet, safety data sheet, dossier, etc.) and further details on doses and how to use on crops, please refer to the website [www.ilsagroup.com](http://www.ilsagroup.com)

# ILSA KOLORADO

UNIFORM COLOURING



1  
kg

5  
kg

20  
kg



## Benefits

- It evens out the colouring of the fruits.
- It reduces stress phenomena during the ripening stage.
- It anticipates ripening and evens out the final quality of the fruits.

### Characterising substances

BETAINES

POLYSACCHARIDES

POTASSIUM  
THIOSULPHATE

BIOACTIVE PLANT  
EXTRACTS

COMPONENTS		BETAINES	POTASSIUM THIOSULPHATE	POLYSACCHARIDES
ACTIONS	STRESS REDUCTION IN THE RIPENING STAGE	✓	✓	
	DEVELOPMENT OF NATURAL FRUIT PIGMENTS		✓	✓

## Chemical and physical features

LIQUID BROWN COLOUR

pH 7.5 ± 0.5

DENSITY 1.33 ± 0.02 kg/dm<sup>3</sup>

CONDUCTIVITY E.C. 3.80 ± 0.20 dS/m



## Composition

TOTAL NITROGEN (N) (% p/p)	4%
of which: ORGANIC NITROGEN (N) (% p/p)	1%
UREA NITROGEN (N) (% p/p)	3%
WATER SOLUBLE POTASSIUM (K <sub>2</sub> O) (% p/p)	12%
ORGANIC CARBON (C) (% p/p)	8%



## Contains in particular

PLANT EXTRACTS WITH HIGH BETAINE CONTENT

POTASSIUM THIOSULPHATE

### What is it?

**ILSAKOLORADO** is a bioactivator for fruit and vegetable colouring based on highly assimilable potassium, betaines, polysaccharides and plant extracts.

### What does it do?

**ILSAKOLORADO** is a bioactivator designed to promote and even out the ripening and colouring of fruits and vegetables even in situations of abiotic stress. Potassium acts in synergy with betaines, positively affecting the biosynthesis of flavours, pigments and sugars considered essential for the final quality of the crops.

The presence of organic molecules of plant origin also promotes the translocation of photosynthetics towards the fruits and/or vegetables during the ripening stage.

**ILSAKOLORADO** allows for the biosynthesis of the natural pigments attributable to the final colour of the fruits: lycopene and beta-carotene in tomatoes, peppers, cherries, peaches, apricots, melons, citrus fruits, anthocyanins and polyphenols in grapes, blueberries, plums, aubergines.

**ILSAKOLORADO** is also suitable for wine and table grapes (red berry varieties), cherries and stone fruits in general, apples, pears, tomatoes and other solanaceous crops. It is also ideal for flower and ornamental crops to intensify the colour and brightness of the flowers.

### How is it used?

**ILSAKOLORADO** is suitable for foliar applications on increase fruit size, fruit and tree crops from the beginning of the veraison stage until the fruits and/or vegetables are harvested. However, for flower and ornamental crops, it is advisable to use the formulation during the growing cycle.

### Directions for use\*

CROP	DOSE	NOTES
APRICOT TREE, CHERRY TREE, PEACH TREE, NECTARINE, PLUM TREE	2.5-3 kg/ha	2-3 applications, every 7-8 days, starting from pre-veraison
APPLE TREE, PEAR TREE, KAKI TREE	2.5-3 kg/ha	2-3 applications, every 7-8 days, starting from pre-veraison
OLIVE TREE	2-2.5 kg/ha	2-3 applications, every 10-12 days, starting from pre-veraison
TOMATO, PEPPER, AUBERGINE, MELON, STRAWBERRY	2.5-3 kg/ha	2-3 applications, every 10-12 days, starting from pre-veraison
TABLE AND WINE GRAPES	2.5-3.5 kg/ha	2-3 applications, every 10-12 days, starting from pre-veraison
CRANBERRY, RASPBERRY	2.5-3 kg/ha	2-3 applications, every 10-12 days, starting from pre-veraison
FLOWER AND ORNAMENTAL CROPS	100 g/100 l water	Every 10-20 days as required

\* The doses shown should be considered as merely indicative and may vary according to pedoclimatic conditions and average yields expected. For more product information (technical data sheet, safety data sheet, dossier, etc.) and further details on doses and how to use on crops, please refer to the website [www.ilsagroup.com](http://www.ilsagroup.com)

# ILSA VIVIDA

PROMOTES VEGETATIVE DEVELOPMENT



1  
kg



## Benefits

- It promotes vegetative development and the increase of plant biomass.
- It promotes photosynthetic activity and transpiration during stress conditions.
- It promotes the formation of the shoots and flower clusters.

### Characterising substances

ORGANIC NITROGEN

HIGHLY ASSIMILABLE PHOSPHORUS

BETAINES

GLYCOSIDES

COMPONENTS		ORGANIC NITROGEN	HIGHLY ASSIMILABLE PHOSPHORUS	BETAINES AND GLYCOSIDES
ACTIONS	INCREASE PHOTOSYNTHESIS AND TRANSPIRATION		✓	✓
	ENHANCE INITIAL DEVELOPMENT	✓	✓	

## Composition

TOTAL NITROGEN (N) (% p/p)	4%
of which: ORGANIC NITROGEN (N) (% p/p)	1%
UREA NITROGEN (N) (% p/p)	3%
TOTAL PHOSPHORUS PENTAOXIDE (P <sub>2</sub> O <sub>5</sub> ) (% p/p)	8%
ORGANIC CARBON (C) (% p/p)	10%



## Chemical and physical features

LIQUID BROWN COLOUR

pH 2.5 ± 0.5

DENSITY 1.21 ± 0.02 kg/dm<sup>3</sup>

CONDUCTIVITY E.C. 2.10 ± 0.20 dS/m



## Contains in particular

PLANT EXTRACTS WITH HIGH BETAINES CONTENT



## What is it?

**ILSAVIVIDA** is a biopromoter of vegetative growth based on Nitrogen, Phosphorus, Betaine and Glucosides, designed to stimulate sprouting and promote chlorophyll photosynthesis.

## What does it do?

**ILSAVIVIDA** is rich in nitrogen which is essential for amino acid synthesis and vegetative growth. The presence of Phosphorus, together with Betaine and Glycosides, promotes the thickening of the tissues being formed, increases plant resistance to environmental adversities (wind, cold, etc.) and reduces the senescence of the cellular structures dedicated to chlorophyll photosynthesis, improving plant vigour.

**ILSAVIVIDA** is particularly effective in stimulating and evening out sprouting and in promoting vegetative growth.

**ILSAVIVIDA** promotes vegetative growth by stimulating meristem activity, resulting in longer shoots and more and greener leaf biomass. **ILSAVIVIDA** stimulates photosynthetic activity and regulates plant transpiration, limiting stunted growths due to environmental stress.

**ILSAVIVIDA** also promotes flower bud differentiation, limiting the phenomena of alternating production.

## How is it used?

**ILSAVIVIDA** is suitable for foliar applications on crops of agricultural interest, including vegetable, fruit and tree crops, from the start of sprouting and/or vegetative growth. However, for flower and ornamental plants, it is advisable to use the formulation during the growing cycle.

### Directions for use\*

CROP	DOSE	NOTES
APRICOT TREE, CHERRY TREE, PEACH TREE, NECTARINE, PLUM TREE	2-2.5 kg/ha	2-3 applications, every 10-15 days, from 10-15 cm sprouts
APPLE TREE, PEAR TREE, ACTINIDIA	2-2.5 kg/ha	2-3 applications, every 10-15 days, from 10-15 cm sprouts
OLIVE TREE	1.5-2 kg/ha	2-3 applications, every 10-15 days, from growth restart to flowering
TABLE AND WINE GRAPES	2-2.5 kg/ha	3-4 applications, every 10-15 days, from 10-15 cm sprouts to rachis development
FLOWER AND ORNAMENTAL CROPS	100 g/100 l water	2-3 applications as needed

\* The doses shown should be considered as merely indicative and may vary according to pedoclimatic conditions and average yields expected. For more product information (technical data sheet, safety data sheet, dossier, etc.) and further details on doses and how to use on crops, please refer to the website [www.ilsagroup.com](http://www.ilsagroup.com)

# ILSA GRADER

INCREASES SUGAR CONTENT



1 kg

5 kg



## Benefits

- It increases the sugar content and the quality of the fruits.
- It allows to obtain the right degree of ripening of the fruits.
- It increases the value of the final production.

### Characterising substances

POTASSIUM THIOSULPHATE

BETAINES

POLYSACCHARIDES

ALGINATES

ACTIONS	COMPONENTS	POTASSIUM THIOSULPHATE	BETAINES AND ALGINATES	POLYSACCHARIDES
	INCREASE SUGAR CONTENT	✓	✓	✓
	EARLIER AND UNIFORM RIPENING	✓	✓	✓

### Composition

TOTAL NITROGEN (N) (% p/p)	4%
of which: ORGANIC NITROGEN (N) (% p/p)	1%
UREA NITROGEN (N) (% p/p)	3%
WATER SOLUBLE POTASSIUM (K <sub>2</sub> O) (% p/p)	12%
ORGANIC CARBON (C) (% p/p)	8%



### Chemical and physical features

LIQUID BROWN COLOUR

pH 7.5 ± 0.5

DENSITY 1.31 ± 0.02 kg/dm<sup>3</sup>

CONDUCTIVITY E.C. 3.90 ± 0.20 dS/m



### Contains in particular

PLANT EXTRACTS WITH HIGH BETAINES CONTENT

FLUID YEAST EXTRACT CONTAINING BROWN ALGAE

## What is it?

**ILSAGRADER** is a biopromoter of sugar synthesis, based on potassium, betaine, polysaccharides and alginates. The formulation has been designed by ILSA's Research and Development department to increase the quality characteristics of agri-food products.

## What does it do?

**ILSAGRADER** is rich in potassium, an essential element for the primary metabolism of plants, as it activates the enzymes involved in photosynthetic processing and sugar biosynthesis. **ILSAGRADER** contains betaines and polysaccharides that, together with potassium, contribute to: increasing cellular osmotic potential by increasing the salt concentration of the sap, regulating the opening of the stomata even in conditions of abiotic stress (high transpiration, summer temperatures, salinity, etc.), improving the quality characteristics of agri-food products (sugar content, colour, aroma, flavour, etc.) increasing their commercial value and reducing waste.

**ILSAGRADER** is the ideal solution to meet both distribution and final consumer needs with regard to the physical and chemical parameters related to the state of ripeness of the fruits (hardness, soluble solids, acidity, etc.) and the qualitative parameters of the fruits (sugar content, colour, flavour, etc.).

## How is it used?

**ILSAGRADER** is suitable for foliar applications on high-profit crops (fruit, vines and trees) from the start of veraison until the fruit ripening stage.

## Directions for use\*

CROP	kg/ha	NOTES
APRICOT TREE, CHERRY TREE, PEACH TREE, NECTARINE, PLUM TREE	2.5-3	2-3 applications, every 10-12 days, from the veraison stage
APPLE TREE, PEAR TREE	2-2.5	2-3 applications, every 10-12 days, from the veraison stage
BLUEBERRY AND OTHER SMALL FRUITS	1.5-2	2-3 applications, every 10-12 days, from the veraison stage
MELON, STRAWBERRY, TOMATO	2-2.5	2-3 applications, every 10-12 days, from the the end of swelling stage
WINE AND TABLE GRAPES	2.5-3	2-3 applications, every 10-12 days, from the veraison stage

\* The doses shown should be considered as merely indicative and may vary according to pedoclimatic conditions and average yields expected. For more product information (technical data sheet, safety data sheet, dossier, etc.) and further details on doses and how to use on crops, please refer to the website [www.ilsagroup.com](http://www.ilsagroup.com)

# ILSA DEEPCDOWN

STIMULATES ROOTING AND THE EARLY  
VEGETATIVE STAGES

## Benefits

- Starter effect on root growth and development.
- It stimulates plants to better production patterns.
- It improves the uptake of nutrients and water.



20  
kg



## Characterising substances

AMINO ACIDS

HIGHLY SOLUBLE  
PHOSPHORUS

ORGANIC NITROGEN

COMPONENTS		ESSENTIAL AMINO ACIDS	HIGHLY ASSIMILABLE PHOSPHORUS	PROTEIN NITROGEN
ACTIONS	ROOTING STIMULATION	✓	✓	✓
	REDUCTION OF POST-TRANSPLANTING SHOCKS	✓		✓

## Composition

TOTAL NITROGEN (N) (% p/p)	5%
of which: ORGANIC NITROGEN (N) (% p/p)	1%
AMMONIA NITROGEN (N) (% p/p)	4%
TOTAL PHOSPHORUS PENTAOXIDE (P <sub>2</sub> O <sub>5</sub> ) (% p/p)	15%
ORGANIC CARBON (C) (% p/p)	3%



## Chemical and physical features

LIQUID COLOUR LIGHT YELLOW

pH 6.0 ± 0.5

DENSITY 1.19 ± 0.02 kg/dm<sup>3</sup>

CONDUCTIVITY E.C. 3.00 ± 0.20 dS/m



## Contains in particular

HYDROLYSATED ANIMAL EPITHELIUM, AMMONIUM  
POLYPHOSPHATE

# ROOTING

## What is it?

**ILSADEEPDOWN** is a rooting bioactivator based on Amino acids, Phosphorus and Nitrogen, realised to stimulate the plant rooting in the early vegetative growth.

## What does it do?

**ILSADEEPDOWN** is rich in Amino acids and Phosphorus which improve the development of new adventitious roots in the early stages of vegetative growth. Furthermore, in the post-transplantation **ILSADEEPDOWN** enhances the plants' rooting, especially in new growth substrates by reducing transplant shock and plant collapse. In addition, the presence of amino acids in the product makes plants more vigorous and supports the plants' acclimation to adverse environmental conditions (jump in temperature, drought, water imbalances, etc.).

**ILSADEEPDOWN** contains Nitrogen, which is an essential nutrient for the emissions of new vegetative shoots. It is a suitable solution to promote the development of root systems for vegetable crops (tomatoes, peppers, melons, courgettes, strawberries and other crops) and nursery plants.

Moreover, the product supports vegetative growth even in conditions of abiotic and physiological stress occur.

## How is it used?

**ILSADEEPDOWN** is indicated for treatments in fertigation in the early vegetative development of vegetable crops and nursery plants.

### Directions for use\*

CROP	DOSE	NOTES
INDUSTRIAL TOMATO, PEPPER, POTATO, AUBERGINE	25-30 kg/ha	From the first fertigation treatments, 2-4 applications
MELON, WATERMELON, COURGETTE, CUCUMBER, STRAWBERRY	20-30 kg/ha	From the first fertigation treatments, 2-4 applications
TOMATO AND OTHER FRUIT VEGETABLE CROPS IN THE GREENHOUSE	2-3 kg/1.000 m <sup>2</sup>	From the first fertigation treatments, 2-4 applications
LETTUCE AND OTHER LEAF VEG. CROPS	20-25 kg/ha	From the first fertigation treatments, 2-4 applications
LETTUCE, FRENCH BEAN AND LEAFY VEGETABLES IN THE GREENHOUSE	2-3 kg/1.000 m <sup>2</sup>	From the first fertigation treatments, 2-4 applications
FORAGE CROPS	20-30 kg/ha	Each 10-20 days as needed
NURSERIES FOR VEGETABLE CROPS	500-800 g/100 l water	Each 10-20 days as needed

\* The doses shown should be considered as merely indicative and may vary according to pedoclimatic conditions and average yields expected. For more product information (technical data sheet, safety data sheet, dossier, etc.) and further details on doses and how to use on crops, please refer to the website [www.ilsagroup.com](http://www.ilsagroup.com)



# ILSA INTEGER

AGAINST ROT AND CRACKING

## Benefits

- It reduces cracking phenomena in vegetables.
- It prevents apical and other rotting caused by cracking.
- It increases the final quality of production.



5  
kg

20  
kg



## Characterising substances

PROLINE

ALANINE

LYSINE

SERINE

GLYCINE

CALCIUM

MAGNESIUM

ACTIONS	COMPONENTS	AMINO ACIDS FROM ENZYMATIC HYDROLYSIS	CALCIUM	MAGNESIUM
	RESISTANCE OF FRUIT EPIDERMIS	✓	✓	
	REDUCTION OF ROT AND NUTRITIONAL DEFICIENCIES	✓	✓	✓

## Composition

TOTAL NITROGEN (N) (% p/p)	9%
of which: ORGANIC NITROGEN (N) (% p/p)	3%
NITRIC NITROGEN (N) (% p/p)	6%
WATER SOLUBLE CaO (% p/p)	9%
WATER SOLUBLE MgO (% p/p)	2%
ORGANIC CARBON (C) (% p/p)	9%



## Chemical and physical features

LIQUID AMBER YELLOW COLOUR

pH 5.5 ± 0.5

DENSITY 1.39 ± 0.02 kg/dm<sup>3</sup>

CONDUCTIVITY E.C. 5.20 ± 0.20 dS/m



## Contains in particular

CO-FORMULANT FROM ENZYMATIC HYDROLYSIS

CALCIUM

MAGNESIUM

# ROT AND CRACKINGS

## What is it?

**ILSAINTEGER** is a biofortifier for plant tissues based on calcium and magnesium complexed with amino acids to prevent fruit rot caused by nutritional physiopathologies and to improve fruit firmness and resistance to “cracking”.

## What does it do?

**ILSAINTEGER** contains mesoelements complexed with a pool of amino acids (alanine, lysine, serine, glycine, etc.) obtained from enzymatic hydrolysis, which improves the uptake and translocation of nutrients within plant tissues (fruits, leaves, etc.). The presence of amino acids (proline and hydroxyproline) also promotes an increase in plant tolerance to abiotic stresses that may occur during the delicate fruit growth stage.

**ILSAINTEGER** prevents nutritional physiopathologies (apical rot in tomatoes, leafy dryness in vegetables), improves the resistance of the fruit epidermis to “cracking”, increases the crispiness of leafy vegetables and improves the shelf life and resistance of the fruits to post-harvest handling, reducing production waste.

## How is it used?

**ILSAINTEGER** is suitable for foliar applications on vegetable crops grown in open fields and in greenhouses from the post-setting stage until fruit swelling.

## Directions for use\*

CROP	DOSE	NOTES
<b>TOMATO, PEPPER, AUBERGINE, STRAWBERRY</b>	2.5-3 kg/ha	2-3 applications, every 7-8 days, from fruit swelling
<b>MELON, WATERMELON, COURGETTE, CUCUMBER</b>	2-2.5 kg/ha	2-3 applications, every 7-8 days, from fruit swelling
<b>TOMATO, PEPPER AND OTHER FRUIT VEGETABLES IN THE GREENHOUSE</b>	0.3-0.4 kg/1.000 m <sup>2</sup>	2-3 applications, every 7-8 days, from fruit swelling
<b>POTATO, CARROT, TURNIP, RADISH</b>	2-2.5 kg/ha	2-3 applications, every 10-15 days, during the development of tubers and rhizomes

\*The doses shown should be considered as merely indicative and may vary according to pedoclimatic conditions and average yields expected. For more product information (technical data sheet, safety data sheet, dossier, etc.) and further details on doses and how to use on crops, please refer to the website [www.ilsagroup.com](http://www.ilsagroup.com)

# ILSA NOBREAK

PROMOTES FRUIT RESISTANCE

## Benefits

- It reduces cracking and rotting phenomena in fruits, grapes and olives.
- It increases the firmness of the pulp and the resistance of the epidermis.
- It improves the organoleptic characteristics and the value of the final production.



1  
kg

5  
kg



## Characterising substances

HIGHLY ASSIMILABLE  
CALCIUM

PROLINE

HYDROXYPROLINE

GLUTAMIC ACID

COMPONENTS		AMINO ACIDS FROM ENZYMATIC HYDROLYSIS	ORGANIC NITROGEN	CALCIUM
ACTIONS	RISE THE RESISTANT EPIDERMIS AND CONSISTENCY	✓		✓
	INCREASE THE FINAL QUALITY	✓	✓	✓

## Composition

TOTAL NITROGEN (N) (% p/p)	5%
of which: ORGANIC NITROGEN (N) (% p/p)	5%
WATER SOLUBLE CaO (% p/p)	8%
ORGANIC CARBON (C) (% p/p)	15%



## Chemical and physical features

LIQUID AMBER YELLOW COLOUR

pH 6.0 ± 0.5

DENSITY 1.29 ± 0.02 kg/dm<sup>3</sup>

CONDUCTIVITY E.C. 4.00 ± 0.20 dS/m



## Contains in particular

CO-FORMULANT FROM ENZYMATIC HYDROLYSIS

CALCIUM

# ROT AND CRACKINGS

## What is it?

**ILSANOBREAK** is a biopromoter of fruit resistance based on calcium complexed with amino acids, specifically designed to prevent nutritional physiopathologies caused by calcium deficiency and to promote the thickening of the epidermis and reduce fruit “cracking ” phenomena.

## What does it do?

**ILSANOBREAK** contains a pool of amino acids (proline, hydroxyproline and glutamic acid) obtained from an enzymatic hydrolysis process that stimulates plant metabolism (primary and secondary metabolism). In addition to this, amino acids promote the uptake and translocation of nutrients in the fruits and stimulate protein synthesis in the plant cell.

The presence of calcium complexed with specific amino acids promotes the thickening of the cell wall and increases the firmness of the skin during the fruit swelling stage and prevents nutritional physiopathologies induced by calcium deficiencies (vine rachis dryness, cracking of stone fruits and table grapes and bitter pit in apples, etc.).

**ILSANOBREAK** provides organic nitrogen, which is an essential element for fruit growth in fruit and tree crops (pomegranates, stone fruit, vines, citrus fruits, olive trees, etc.).

## How is it used?

**ILSANOBREAK** is suitable for foliar applications during the post-setting-growth stage of fruit tree crops and to prevent physiopathologies induced by calcium deficiency.

### Directions for use\*

CROP	kg/ha	NOTES
CITRUS	2.5-3	2-4 applications, every 10-15 days, from fruit swelling
APPLE TREE, PEAR TREE	2.5-3	2-4 applications, every 10-15 days, from fruit swelling
CHERRY TREE	2-3	2-4 applications, every 10-15 days, from fruit swelling
PEACH TREE, NECTARINE, APRICOT TREE, PLUM TREE	2-2.5	2-4 applications, every 10-15 days, from fruit swelling
OLIVE TREE	2-2.5	2-3 applications, every 15-20 days, from the olive ripening phase
WINE AND TABLE GRAPES	2-2.5	3-4 applications, every 10-12 days, from berries cracking

\* The doses shown should be considered as merely indicative and may vary according to pedoclimatic conditions and average yields expected. For more product information (technical data sheet, safety data sheet, dossier, etc.) and further details on doses and how to use on crops, please refer to the website [www.ilsagroup.com](http://www.ilsagroup.com)

# CONVERSION TABLE kg/l

Product	Density kg/l at 20°C	kg	liters	kg	liters	kg	liters
ILSAC-ON	1,15	1	0,870	1,5	1,304	2	1,739
ILSADEEPDOWN	1,19	1	0,840	1,5	1,261	2	1,681
ILSADURADA	1,15	1	0,870	1,5	1,304	2	1,739
ILSAFORMA	1,17	1	0,855	1,5	1,282	2	1,709
ILSAFITOCELL	1,21	1	0,826	1,5	1,240	2	1,653
ILSAGIRMA	1,17	1	0,855	1,5	1,282	2	1,709
ILSAGRADER	1,31	1	0,763	1,5	1,145	2	1,527
ILSAINTEGER	1,39	1	0,719	1,5	1,079	2	1,439
ILSAKOLORADO	1,33	1	0,752	1,5	1,128	2	1,504
ILSALEVA	1,14	1	0,877	1,5	1,316	2	1,754
ILSAMIN N90	1,22	1	0,820	1,5	1,230	2	1,639
ILSANOBREAK	1,29	1	0,775	1,5	1,163	2	1,550
ILSAPOLICOS	1,28	1	0,781	1,5	1,172	2	1,563
ILSARODDER	1,17	1	0,855	1,5	1,282	2	1,709
ILSASHAPE	1,19	1	0,840	1,5	1,261	2	1,681
ILSASTIM +	1,15	1	0,870	1,5	1,304	2	1,739
ILSASTIMSET	1,22	1	0,820	1,5	1,230	2	1,639
ILSATERMIKO	1,22	1	0,820	1,5	1,230	2	1,639
ILSAVEGETUS	1,15	1	0,870	1,5	1,304	2	1,739
ILSAVIVIDA	1,21	1	0,826	1,5	1,240	2	1,653
ILSAORGAMIT-R	1,13	1	0,885	1,5	1,327	2	1,770
MACRILS@	1,11	1	0,901	1,5	1,351	2	1,802
SOYBILS@	1,20	1	0,833	1,5	1,250	2	1,667
SPLINTER NEW	1,16	1	0,862	1,5	1,293	2	1,724



kg	liters	kg	liters	kg	liters	kg	liters	kg	liters
2,5	2,174	3	2,609	5	4,348	10	8,696	20	17,391
2,5	2,101	3	2,521	5	4,202	10	8,403	20	16,807
2,5	2,174	3	2,609	5	4,348	10	8,696	20	17,391
2,5	2,137	3	2,564	5	4,274	10	8,547	20	17,094
2,5	2,066	3	2,479	5	4,132	10	8,264	20	16,529
2,5	2,137	3	2,564	5	4,274	10	8,547	20	17,094
2,5	1,908	3	2,290	5	3,817	10	7,634	20	15,267
2,5	1,799	3	2,158	5	3,597	10	7,194	20	14,388
2,5	1,880	3	2,256	5	3,759	10	7,519	20	15,038
2,5	2,193	3	2,632	5	4,386	10	8,772	20	17,544
2,5	2,049	3	2,459	5	4,098	10	8,197	20	16,393
2,5	1,938	3	2,326	5	3,876	10	7,752	20	15,504
2,5	1,953	3	2,344	5	3,906	10	7,813	20	15,625
2,5	2,137	3	2,564	5	4,274	10	8,547	20	17,094
2,5	2,101	3	2,521	5	4,202	10	8,403	20	16,807
2,5	2,174	3	2,609	5	4,348	10	8,696	20	17,391
2,5	2,049	3	2,459	5	4,098	10	8,197	20	16,393
2,5	2,049	3	2,459	5	4,098	10	8,197	20	16,393
2,5	2,174	3	2,609	5	4,348	10	8,696	20	17,391
2,5	2,066	3	2,479	5	4,132	10	8,264	20	16,529
2,5	2,212	3	2,655	5	4,425	10	8,850	20	17,699
2,5	2,252	3	2,703	5	4,505	10	9,009	20	18,018
2,5	2,083	3	2,500	5	4,167	10	8,333	20	16,667
2,5	2,155	3	2,586	5	4,310	10	8,621	20	17,241

**From the Viridem® program, Ilsaforma.  
Increase the size of your fruits.**

**VIRIDEM®**

vegetal extracts for agricultural use

**Viridem® Biostimulant by ILSA.  
They help your plants do their job.**

ILSAFORMA is designed to increase the size of fruits by limiting stresses during their ripening stage. Applied during the fruit setting phase, ILSAFORMA works effectively on pomaceous fruit, stone fruits (drupes), grapes and other fruit trees which, in harmony with a proper water management, produce larger fruits. ILSAFORMA also is a bioactive product that is part of the Viridem® program, the innovative generation of products of plant origin, effective and sustainable, developed by ILSA.

**May their work be productive.  
And yours too.**



Recommended for: Table Grape, Stone Fruits,  
Pome Fruits, Olive Tree.

[www.ilsagroup.com](http://www.ilsagroup.com)

**ILSA**  
The green evolution



[www.theintrepid.it](http://www.theintrepid.it)

# From the Viridem® program, IlsaC-on. More yield in oil.

**VIRIDEM®**  
vegetal extracts for agricultural use



## **Viridem® Biostimulant by ILSA.** **They help your plants do their job.**

ILSAC-ON is a natural biostimulant obtained by enzymatic hydrolysis of Fabaceae tissues which increases the absorption efficiency of water and nutrients. It promotes the nutritional balance which affects the plants' wellbeing by limiting the negative effects of environmental, thermal, water stress and in particular those caused by excess salinity. Plants can thus express all their potential: results can be seen, for example, in the olive oil yield and in the increase of sugar contents in vines for wine-making. ILSAC-ON also is a bioactive product that is part of the Viridem® program, the innovative generation of products of plant origin, effective and sustainable, developed by ILSA.

## **May their work be productive.** **And yours too.**



Recommended for: Olive Tree, Table and Wine Grape, Stone Fruits,  
Pome Fruits, Actinidia, Solanaceae, Corn and other Cereals.

[www.ilsagroup.com](http://www.ilsagroup.com)

**ILSA**  
The green evolution

# From the Viridem® program, Ilsakolorado. Standardise the colour of the fruit.

## VIRIDEM®

vegetal extracts for agricultural use

### Viridem® Biostimulant by ILSA. They help your plants do their job.

ILSAKOLORADO is designed to standardise fruit colouring, reducing stress phenomena during their ripening phase. The use of ILSAKOLORADO in fact allows increasing the development of those natural pigments which give the final colour to fruit, bringing forward its ripening and standardising quality. ILSAKOLORADO also is a bioactive product that is part of the Viridem® program, the innovative generation of products of plant origin, effective and sustainable, developed by ILSA.

**May their work be productive.  
And yours too.**



Recommended for: Stone Fruits, Pome Fruits, Loti, Solanaceae, Melon, Strawberry, Grapes and Wine, Blueberry, Raspberry, Flower and Ornamental Crops.

[www.ilsagroup.com](http://www.ilsagroup.com)



[www.thetripdi.it](http://www.thetripdi.it)

**ILSA**  
The green evolution

**From the Viridem® program, Ilsagirma.  
Stimulate flowering and fruit setting,  
reduce immature fruit-falling.**

**VIRIDEM®**

vegetal extracts for agricultural use

**Viridem® Biostimulant by ILSA.  
They help your plants do their job.**

ILSAGIRMA is designed to stimulate reproductive energy, regulating flowering and the biochemical reproductive equilibrium. ILSAGIRMA is used via the roots. It reduces sensitivity to those environmental stresses which are responsible for small fruits falling, whilst regulating the hormonal and enzymatic balance which affects these delicate phases, and helps plants overcome any environmental stress phases. ILSAGIRMA also is a bioactive product that is part of the Viridem® program, the innovative generation of products of plant origin, effective and sustainable, developed by ILSA.

**May their work be productive.  
And yours too.**



Recommended: Stone Fruits, Pome Fruits, Actinidia, Citrus, Solanaceae, Cucurbitaceae, Strawberry, Grapes and Wine, Olive Tree.

[www.ilsagroup.com](http://www.ilsagroup.com)

**ILSA**  
The green evolution

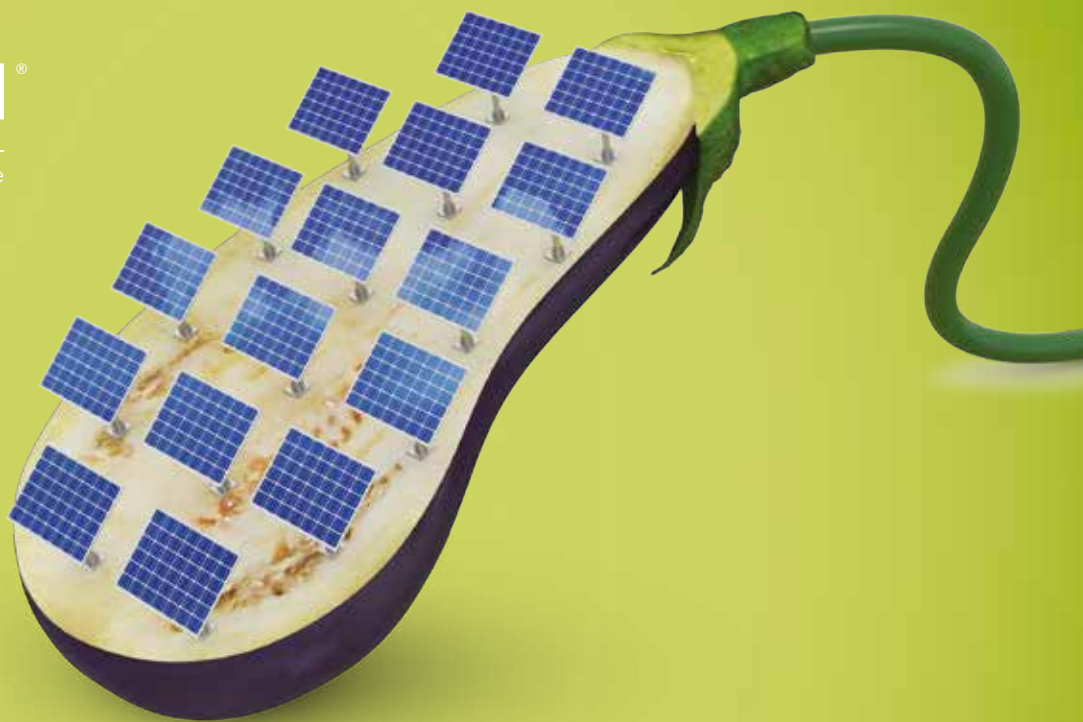
[www.thetrapi.it](http://www.thetrapi.it)



# From the Viridem® program, Ilsaeva. Photosynthesis with no limits.

## VIRIDEM®

vegetal extracts for agricultural use



### **Viridem® Biostimulant by ILSA. They help your plants do their job.**

ILSALEVA has been created to stimulate photosynthesis efficiency, including in limiting situations. The use of ILSALEVA allows obtaining a greener and healthier vegetation, stimulating an increased plant tissue development. ILSALEVA too is a bio-stimulant belonging to the Viridem® programme, the new generation of effective and sustainable products of plant origin, developed by ILSA.

### **May their work be productive. And yours too.**



Recommended for: Apricot tree, Cherry tree, Peach tree, Nectarine, Plum tree, Apple tree, Pear tree, Actinidia, Olive tree, Ornamental and Floral crops.

[www.ilsagroup.com](http://www.ilsagroup.com)

**ILSA**  
The green evolution

[www.theintrepid.it](http://www.theintrepid.it)

**From the Viridem® program, Ilsagrader.  
More sugars, more quality.**

**VIRIDEM®**

vegetal extracts for agricultural use

**Viridem® Biostimulant by ILSA.  
They help your plants do their job.**

ILSAGRADER is designed to obtain the right degree of ripeness in fruit production, as it increases fruit consistency, the accumulation of acids and their transformation into sugars, also improving the balance between aromas and flavours without affecting the final pH. ILSAGRADER increases the sugar content in fruits and the dry matter, reducing production waste, and increasing the quality and value of the end production. ILSAGRADER also is a bioactive product that is part of the Viridem® program, the innovative generation of products of plant origin, effective and sustainable, developed by ILSA.

**May their work be productive.  
And yours too.**



Recommended for: Grapes and Wine, Stone Fruits,  
Pome Fruits, Melon, Strawberry, Blueberry, Blackberry,  
Raspberry, Currant.

[www.ilsagroup.com](http://www.ilsagroup.com)

**ILSA**  
The green evolution

# From the Viridem® program, Ilsarodder. Stimulate rooting and early vegetative phases.

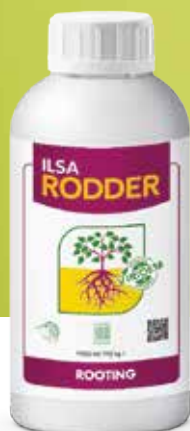
## VIRIDEM®

vegetal extracts for agricultural use

### Viridem® Biostimulant by ILSA. They help your plants do their job.

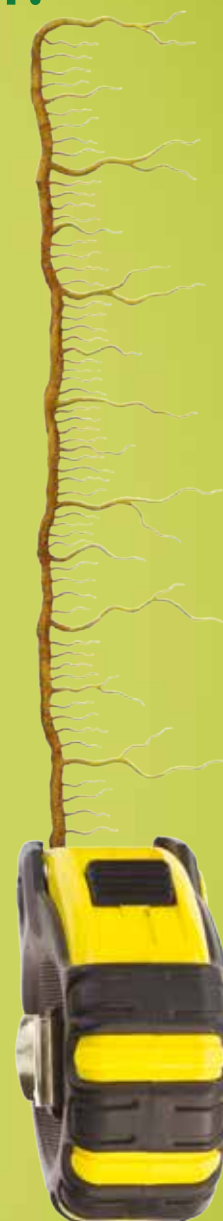
ILSARODDER has a starter effect on root development, improving absorption and the use of nutrients and water. Applied via the leaves, ILSARODDER improves the growth of roots during germination, the rooting of transplanted plants and plant growth, helping them during post-transplant stress and in times of thermal or water imbalance.

**May their work be productive.  
And yours too.**



Recommended for: Solanaceae, Cucurbitaceae,  
Strawberry, Leafy and Nursery Vegetables, Green Bean,  
Cultures for Fresh Vegetables.

[www.ilsagroup.com](http://www.ilsagroup.com)



[www.ilsatepidi.it](http://www.ilsatepidi.it)

**ILSA**  
The green evolution

# From the Viridem® program, Ilsadurada. Your fruit will last longer.

## VIRIDEM®

vegetal extracts for agricultural use

### **Viridem® Biostimulant by ILSA. They help your plants do their job.**

ILSADURADA is designed to extend the shelf life of post-harvest vegetables. The use of ILSADURADA enables maintaining the consistency of fruit and vegetables, allowing easier handling during harvesting operations, increasing shelf-life, keeping them just right for a longer period. ILSADURADA also is a bioactive product that is part of the Viridem® program, the innovative generation of products of plant origin, effective and sustainable, developed by ILSA.

### **May their work be productive. And yours too.**



Recommended for: Lettuce and Cultures for Fresh Vegetables,  
Melon, Courgette, Cucumber, Tomato, Pepper and other Solanacee.

[www.ilsagroup.com](http://www.ilsagroup.com)

**ILSA**  
The green evolution

www.thentrepid.it



# From ILSA, Ilsanobreak. Increase resistance to rottenness and cracking.

## ILSA products with a specific action.

ILSANOBREAK is designed to increase the resistance of fruits to cracking, reducing moulds and rottenness. It thickens the peel and carries out an antioxidant and prevention action against external stress. ILSANOBREAK guarantees excellent quality of the end production, increasing the amount of marketable fruit.

**May their work be productive.  
And yours too.**



Recommended for: Citrus, Apple Tree, Pear Tree,  
Cherry Tree, Peach and Nectarine, Apricot Tree, Plum Tree.

[www.ilsagroup.com](http://www.ilsagroup.com)

**ILSA**  
The green evolution

[www.thefruitapi.it](http://www.thefruitapi.it)



# From ILSA, ILSATERMIKO.

## Thermal and water stresses do not affect us.



### ILSA products with a specific action.

ILSATERMIKO is designed to prevent and counter stress from high and low temperatures and from droughts. The use of ILSATERMIKO favours vegetative recovery after critical environmental periods, improving the concentration of cellular contents.

**May their work be productive.  
And yours too.**



Recommended for: Tomato, Pepper, Aubergine, Melon, Watermelon, Strawberry, Vegetables.

[www.ilsagroup.com](http://www.ilsagroup.com)



[www.theintrepid.it](http://www.theintrepid.it)

# From the Viridem® program, Ilsastimset. Reduce all the negative effects of saline stress.

## VIRIDEM®

vegetal extracts for agricultural use

### Viridem® Biostimulant by ILSA. They help your plants do their job.

ILSASTIMSET restores vegetative responses under saline stress, helps the plant's vital processes and the structure of its root system, improving the absorption of nutrients and water.

Applied via the roots, ILSASTIMSET limits the adverse effects of excess salt in the soil and in the soil solution. Its formulation stimulates the development and production of plants, even in cases of high electrical conductivity. ILSASTIMSET also is a bioactive product that is part of the Viridem program, the innovative generation of products of plant origin, effective and sustainable, developed by ILSA.

**May their work be productive.  
And yours too.**



Recommended for: Tomato, Pepper, Potato, Eggplant, Melon, Watermelon, Courgette, Cucumber, Strawberry, Tomato and other horticultural in greenhouse, Stone Fruits, Pome Fruits, Table and Wine Grape.

[www.ilsagroup.com](http://www.ilsagroup.com)

**ILSA**  
The green evolution

www.themrepl.it

# From ILSA, Ilsatermiko. Thermal and water stresses do not affect us.



## ILSA products with a specific action.

ILSATERMIKO is designed to prevent and counter stress from high and low temperatures and from droughts. The use of ILSATERMIKO favours vegetative recovery after critical environmental periods, improving the concentration of cellular contents.

**May their work be productive.  
And yours too.**



Recommended for: Tomato, Pepper, Aubergine,  
Melon, Watermelon, Strawberry, Vegetables. T

V

[www.ilsagroup.com](http://www.ilsagroup.com)

**ILSA**  
The green evolution

[www.ilsaregidi.it](http://www.ilsaregidi.it)



## ILSA DISTINCTIVE FEATURES

### THE HISTORY

More than sixty years of history for our customers means continuity, solidity, the ability to remain in the market and always meet requirements adequately with high quality products.

### PRESENT IN 57 COUNTRIES

For our customers it means benefiting from extensive application experience in a wide range of crops and in the most diverse conditions.

### WORLD LEADER IN THE FIELD OF ORGANIC PLANT NUTRITION

This leadership seems to indicate a precise direction of ILSA's commercial strategy, while 90% of its turnover is made in traditional agriculture with products allowed in ORGANIC farming. This proves, for our customers, the competitiveness of our products both from an agronomic point of view and in terms of price.

### MAJOR INVESTMENTS IN RESEARCH

ILSA invests heavily in research, proving its awareness of how much more there is to know about plants and soil. For our customers it means entering into a partnership with a company aware of how important knowledge is in order to always be able to guarantee application quality, productivity and respect for the environment. Distributing ILSA products is good for the dealer's image.

### AGROGEL® AND GELAMIN® TWO EXCLUSIVE MATRICES

AGROGEL®, the result of research, used for the production of ILSA fertilisers and included in legislation in March 2007, is the only fully standardised natural raw material. This means being able to guarantee our customers, with absolute precision, the titres relating to organic nitrogen, soluble organic nitrogen, organic carbon, soluble organic carbon, humidity, pH, etc. Basically, objective quality and awareness of using a product with low environmental impact.

GELAMIN® the matrix for the production of special liquid products offers all the advantages of enzymatic hydrolysis for both animal and plant-based raw materials.

### QUALITY AND AGRONOMIC EFFICIENCY OF THE PRODUCTS

In order to bear the ILSA brand, each product must successfully pass some tests lasting no less than three years, starting from the growth room and ending in the open field.

ILSA is one of the few companies with an internal structure exclusively dedicated to the quality control of incoming raw materials and outgoing formulations, but above all dedicated to the evaluation of the efficiency of fertilisers and this means guaranteeing our customers the best agronomic results and ensuring that each product keeps its promises, putting our customer in a position to best qualify their presence on the market.

### INNOVATIVE PRODUCTS

Solid organic fertilisers with modulated release or liquid fertilisers with a molecular weight predetermined during the production phase are just some of the examples of ILSA's innovative capacity. The way in which the nutrients are released is calculated right from the production phase so that the product is able to meet the needs of the crops as effectively as possible, according to the uptake curves of the nutrients. Feeding plants as needed means maximum efficiency with any soil, balance and maximum yield.

### COMPLETENESS OF THE OFFER

Biostimulants and fertilisers that meet the requirements of all fertilisation techniques, whether by solidroot, by foliar application with a generic or specialised objective, or by fertigation, means that a customer can therefore rely completely on ILSA to meet all the nutritional needs of the crops.

The products of the VIRIDEM® program are the perfect synthesis of the completeness of the ILSA offer.







**AgroSolutions**

**GELAMIN<sup>®</sup>**

fluid gelatine for agricultural use

[www.gelamin.it](http://www.gelamin.it)

**VIRIDEM<sup>®</sup>**

vegetal extracts for agricultural use

[www.viridem.it](http://www.viridem.it)



**ILSA** S.p.A.

Via Quinta Strada, 28  
36071 - Arzignano (VI) Italia  
Sede legale: Via Roveggia, 31 - 37136 - Verona  
Tel. +39 0444 452020  
[www.ilsagroup.com](http://www.ilsagroup.com) - [infoilsa@huber.com](mailto:infoilsa@huber.com)