ICL

Agroleaf® Power

Agroleaf® Special

Agroleaf® Liquid

Precision Nutrition

with Foliar Fertilizers

http://icl-growingsolutions.com

Index

Advanced Foliar Fertilizer Technologies ensure your success

Foliar feeding provides an excellent solution when the plant root system is not functioning optimally or when nutrient-provision via the soil is malfunctioning. This form of feeding is ideal when root uptake is disturbed by factors such as overly cold or warm soils, high soil pH, high weed competition, or nematode infestation. Foliar fertilizers are also perfect for use as a preventive tool to avoid and reduce stress situations.

Foliar fertilizer technology is a unique, dynamic, and effective form of crop nutrition. ICL research and development team have developed some of the world's leading and most innovative foliar nutritional solutions. These state-of-the-art solutions focus on applications for both curative and preventive actions.

M-77 Technology

M-77 is an exclusive package of compounds that have a defined purpose. This package includes ingredients that enhance the delivery of the spray solution, speedy uptake and effectiveness of the nutrients. Included within M-77 is our innovative, patented plant booster that takes plant nutrition one step further and results in healthier and more productive crops.

The M-77 formula contains

- Compounds extending the effectiveness of the chelates supplied by the foliar spray
- Vitamins that improve the metabolic activity of the plant tissues absorbing the spray
- Functional elements that improve the utilization of the nutrients
- Stress-reducing compounds that enhance the plant's tolerance to abiotic stresses, thereby maintaining its productive capacity

DPI Technology

ICL's Double Power Impact (DPI) technology complex creates highly efficient photosynthetic reactions – the process by which plants use light as an energy source to make glucose from carbon dioxide and water. This is achieved by boosting transpiration rates and chlorophyll levels.

With a natural origin, the DPI growth enhancer has been proven to improve transpiration levels leading to higher CO_2 assimilation rates. The DPI complex also improves chlorophyll levels in treated leaves, as well as leaf weight and size. Improvements in the availability of applied nutrients have also been demonstrated – particularly nitrogen and phosphate in the plant. In addition, DPI also boosts the availability of the applied nutrients. Independent work has shown a 200 hour (10 day) improvement compared with other fertilizers. ICL uses unique patented technologies like M-77 and Fertivant to increase efficiency of the foliar application.

Agroleaf® Power

A unique water-soluble foliar fertilizer

Agroleaf Power delivers proven results at critical stages of the crop.

It boasts outstanding purity (zero chlorides) and a high nutrient content. Its exclusive M-77 technology and Double Power Impact (DPI) complex guarantees good uptake and prolonged availability of micro-nutrients.

With all macro and micro-nutrients covered in the Agroleaf Power range, there is a product for every need. It can target every growth stage and correct nutrient imbalances as well as minor deficiencies. Thanks to the purity and high quality of the raw materials, Agroleaf Power products dissolve quickly and completely, making application easy.

DPI Double Power Impact

Foliar Feed

M-77 The Advanced Exclusive Chelating Formula

Benefits of Agroleaf Power

- Foliar feeding with Agroleaf Power enables fast absorption by the plants
- Very quick response time, so ideal as a curative foliar feed
- M-77 and DPI technology provide improved photosynthesis
- Highly concentrated foliar feed, meaning less product to handle
- Superior delivery and uptake of nutrients from M-77

"I have been using ICL full portfolio of products including Agroleaf, Agromaster, and Solinure for some years now. What drew me to this partnership is not only the excellent products but the full support in form of recommendations and the follow up field visits by their agronomist".

Mr. Aleksandar Stambolija
OSR, cabagge and pepper grower
Donji Miholjac, Croatia

Agroleaf® Special

The premium fertilizer that boosts crop productivity

Agroleaf Special is a premium, fully water-soluble foliar feed, widely used in agriculture and horticulture to prevent and control deficiencies in a wide variety of crops such as cereals, vegetables, flowers, and fruit-trees.

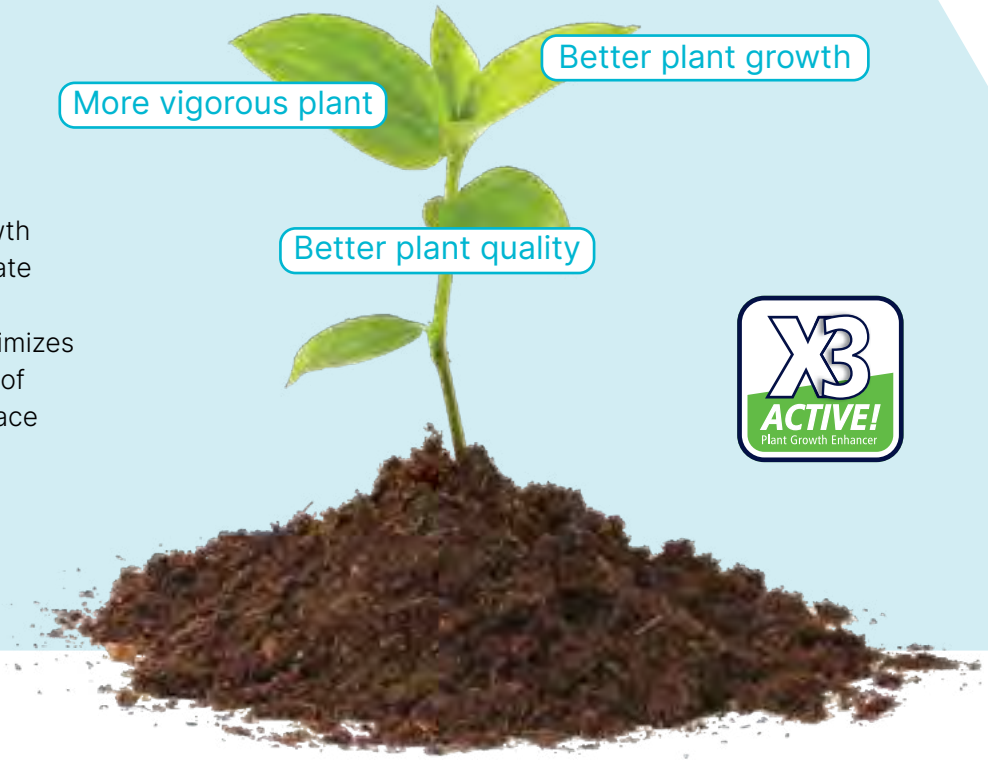
Agroleaf Special includes X3-Active technology which enhances nutrient uptake.

Benefits of Agroleaf Special

- Foliar feeding with Agroleaf Special enables fast absorption by the plant. Al ready within 24 hours the plant will be able to withstand physiological stress situations
- Agroleaf Special boosts the plant's metabolism
- X3 facilitates the absorption of the trace element into the plant's leaves and therefor results in effective uptake
- Agroleaf Special dissolves quickly and completely, making solution preparation easy and trouble-free
- Agroleaf Special can be tank-mixed with a wide range of other fertilizers and crop-protection compounds

X3-Active Technology

X3-Active is a specific, selected growth enhancer which is designed to facilitate the absorption of trace-element compounds into plant leaves and optimizes the trace elements by a large variety of crops. X3-Active is used in various trace element products in the ICL portfolio.



Agroleaf® Liquid

The high quality liquid foliar fertilizer

ICL launches a new portfolio of innovative, liquid fertilizers: Agroleaf Liquid. With this new portfolio we provide growers the benefits of liquid fertilizers: ease of use, easy to dilute and easy to store.

The ICL perception of solving farmers' challenges revolves around three key focus area:

Innovation

ICL is the recognized standard for product innovation and performance. Innovation areas include controlled release technologies, water soluble fertilizers and liquid fertilizers.

Best ingredients

What you give is what you get! ICL only accepts the best ingredients to provide consistent and trouble-free products for optimal plant growth.

Reliability

ICL's production methods are verified by three different "ISO" certifications. All products are REACH registered. Bag after bag, can after can, year in year out, you can rely on our quality.

Foliar Feed

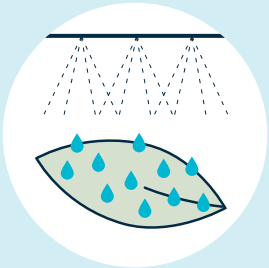
F3 Surf Active

F3 SurfActive technology for improved nutrient availability

Growing plants and crops without stress is the objective of each farmer. However, in our daily work we know that many factors can create stress situations. With normal nutrition via the roots a plant will get the majority of the required nutrients, but in cases when the root system is not functioning optimally or nutrition via the soil is malfunctioning, foliar feeding is a solution.

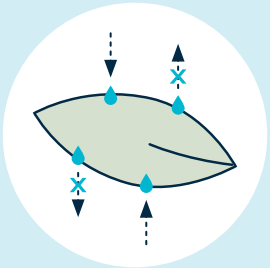
Agroleaf Liquid range contains F3 SurfActive, an unique ICL technology that increases the efficiency of each foliar application. F3 SurfActive technology consists of an innovative blend of non-ionic surfactants created to improve nutrient availability and the efficiency of the spray solution.

What you can expect from the F3 SurfActive technology



Better spreading

F3 technology lowers the droplet surface tension and spreads nutrients optimally over the leaves. This results in a greater covered area for nutrient uptake.



Better adhesiveness

Better water droplet adhesion to the leaf surface reduces runoff and bounce-off, and increases nutrient availability, especially on waxy leaves.

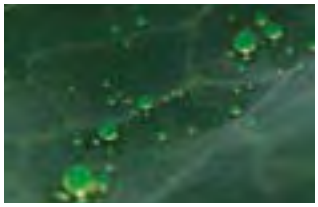
Better retention

F3 technology enables the formation of small nutrient deposits on the leaf surface that are reactivated by rewetting (e.g. by high air humidity). This avoids droplet evaporation and provides prolonged nutrition for improved foliar applications.

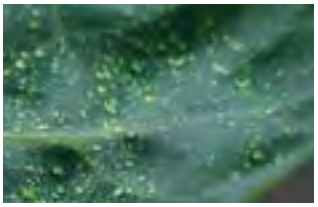
F3 SurfActive mode of action

Droplets behavior on waxy leaves treated with and without F3 SurfActive technology.
Leaves treated with F3 SurfActive technology show significantly better coverage in both light conditions!

Under normal daylight conditions:



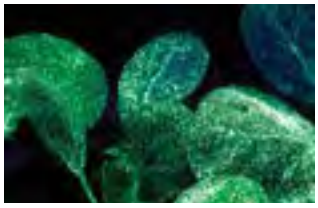
untreated



treated

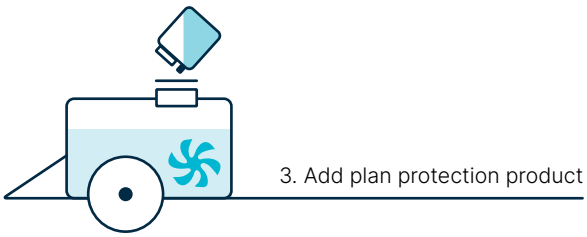
Under UV light conditions:

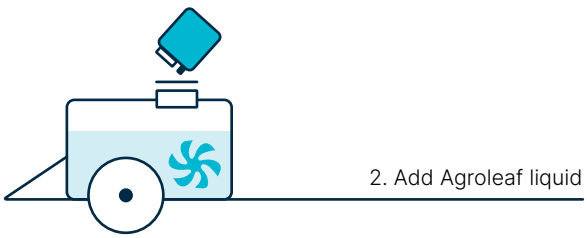
untreated



treated

Agroleaf Liquid dosage





Disclaimer: *This product can normally be used in conjunction with most of the products commonly used for foliar application, but ICL recommends to perform a small-scale compatibility test prior to any foliar application. Avoid mixing the product with copper and sulphur based products!*

Agroleaf® Power

Trial case, hops

Objective: The objective of the trial is to test the effect of the foliar fertilizers on hop yield and alpha-bitter acids contents in the case of semi-early red-bine hop variety called Saaz.

Where: Hop Research Institute Co., Ltd., Žatec, Czechia

Crop: Hops, Saaz variety

Treatments

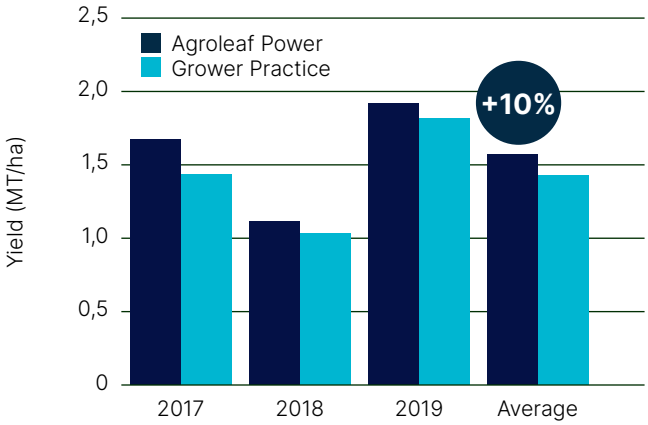
Timing	Grower practice	Agroleaf Power
Beginning of May	Similar NPK ratio and dosages with conventional foliar fertilizers	High N – 5kg/ha Special Zn – 0.5 kg/ha
Mid-June		High P – 5 kg/ha
Beginning of July		Magnesium – 5 kg/ha Special Zn – 0.5 kg/ha
End of July		High K – 5 kg/ha

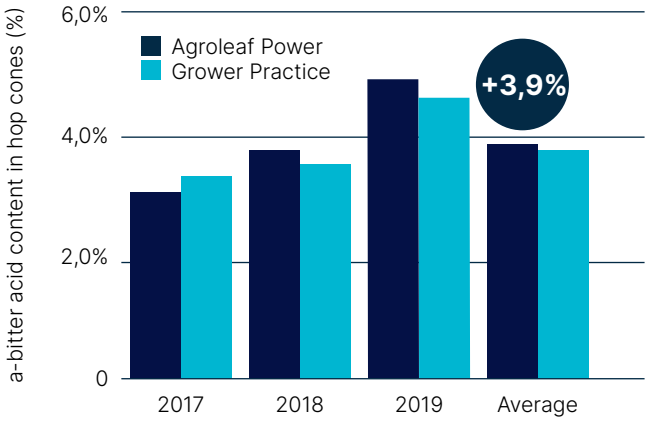
Every year, granular fertilizers were equally applied on both treatment zones: Units, kg/ha: N - 188, P_2O_5 - 145, K_2O - 181

Economic evaluation	Agroleaf Power	Grower practice
Yield, MT/ha	1.57	1.43
Total cost of foliar fertilization, Euro/ha	88	35
Gross income minus cost of foliar fertilization, Euro/ha	€ 13,257	€ 12,120
Extra income/ha vs grower practice	€ 1,137	-

Reference price for hop yield = 8,500 Euro/MT

Yield and quality





Conclusion

The Agroleaf Power treatment increased hop yield by 10% on average. Other quality parameters were equal to or slightly better than grower practice. Agroleaf Power generated € 1,137 extra income compared to grower practice.

+12%

Trial case, potatoes

Objective: Compare the efficiency of Agroleaf Power foliar fertilizer to grower practice in chips potatoes.

Where: Färlöv, Sweden

Crop: Chips potato, Saturna

Treatments

Both treatments received:

Liquid Pig Manure	20 Mt/ha
Concentrated fruit juice	1.9 Mt/ha
Axan 27-3	300 Kg/ha
Kalimagnesia	150 Kg/ha
Manganese Nitrate	4×1 l/ha

ICL treatment:

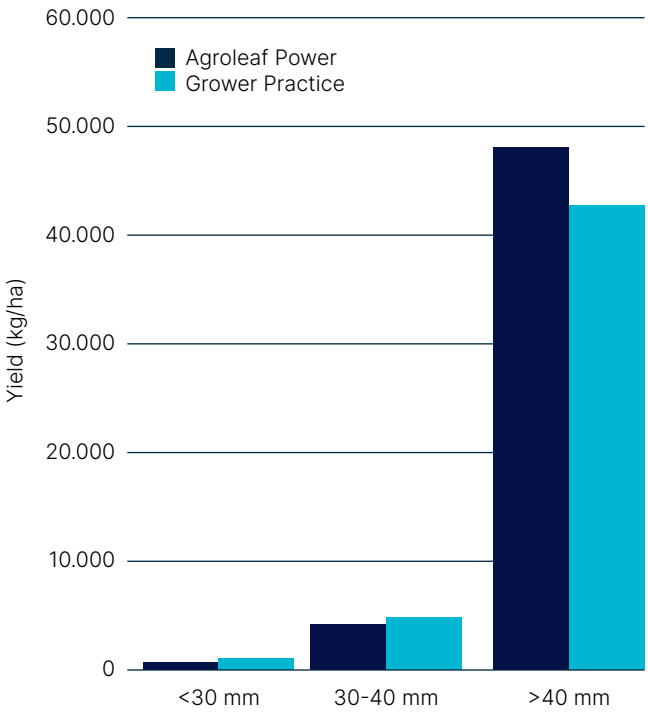
Agroleaf Power High P	4+4 Kg/ha
Agroleaf Power High K	4+4 Kg/ha

Economic evaluation	Agroleaf Power	Grower practice
Cat 1: High quality, > 40 mm (Kg/ha)	47.873	42.629
Cat 2: Medium quality, 30-40 mm (Kg/ha)	2.936	3.389
Gross income / ha	€ 7,219	€ 6,538
Extra costs of ICL treatment (vs grower practice)	77 €/ha	-
Extra income / ha (vs grower practice)	604 €/ha	

Why Agroleaf Power?

- Agroleaf Power will minimize the effects of stress caused by weather, pesticides and heavy production
- Agroleaf Power will quickly correct nutritional deficiencies

Yield distribution per size class



Conclusion

The application of Agroleaf Power increased the yield of tubers higher than 40 mm by 12%. The Agroleaf Power treatment resulted in a 9% increase of the gross income per hectare thanks to improved potato quality.

Breakdown Tables (in %)

Agroleaf® Power

Product	Formulation	Product Name	Item code	N-total	NO_3-N	NH_4-N	Urea-N	P_2O_5
Agroleaf Power	20-20-20	Total	2096	20	4.3	2.2	13.5	20
Agroleaf Power	31-11-11+TE	High N	2095	31	1.0		30.0	11
Agroleaf Power	12-52-5+TE	High P	2094	12		8.7	3.3	52
Agroleaf Power	15-10-31+TE	High K	2097	15	9.0	1.7	4.3	10
Agroleaf Power	11-5-19+9CaO+2.5MgO+TE	Calcium	2098	11	11.0			5
Agroleaf Power	10-5-10+16MgO+32SO3+TE	Magnesium	2099	10	2.0		8.0	5

Agroleaf® Special

Product	Formulation	Product Name	Item code	N-total	NO_3-N	NH_4-N	Urea-N	P_2O_5	K_2O
Agroleaf Special	12% Manganese EDTA	Mn	2088						
Agroleaf Special	14% Zinc EDTA	Zn	2089						

** EDTA chelated ** DTPA chelated *** Measured in soft water (comparable to rainwater)*

Foliar application methods

Foliar fertilization means the spray application of nutrients to the plant leaves and stems and their absorption.

The observed effects of foliar fertilization include yield increases, better resistance to diseases and pests, improved drought tolerance, and enhanced crop quality The plant's response is dependent on species, fertilizer form, concentration, and frequency of application, as well as the stage of plant growth. Foliar applications are often timed to coincide with specific vegetative or fruiting stages of growth, and the fertilizer formula is adjusted accordingly. The amount of nutrients that plants can absorb via foliar application is limited, and generally much less than their total nutrient requirements.

Foliar application should therefore be used as a supplementary form of fertilization. It cannot replace basal fertilization.

K_2O	CaO	MgO	SO_3	B	Cu	Fe	Mn	Mo	Zn	EC at 1g/l (mS/cm)	Max. solubility (kg/100 l)
20			0.8	0.03	0.070*	0.14**	0.07*	0.001	0.070*	0.8	2.5
11			0.8	0.03	0.070*	0.14**	0.07*	0.001	0.070*	0.5	2.5
5			0.8	0.03	0.070*	0.14**	0.07*	0.001	0.070*	0.7	2.5
31			0.8	0.03	0.070*	0.14**	0.07*	0.001	0.070*	1.0	2.5
19	9.0	2.5		0.04	0.030*	0.25**	0.13*	0.020	0.030*	1.2	2.5
10		16.0	32.0	0.25	0.070*	0.14**	0.25*	0.001	0.070*	1.1	2.5

CaO	MgO	SO_3	B	Cu	Fe	Mn	Mo	Zn	EC at 1g/l (mS/cm)	pH at 1 g/l	Max. solubility (kg/100 l)
						12.00*			0.4	6.4	0.5
								14.000*	0.4	6.5	0.5

Overview is subject to formulation changes and misprints.

Recommendations for efficient foliar application

- The best times for foliar spraying are early morning and late afternoon, when humidity is higher and the leaves are in a state of full turgor, with their cells full of water.
- Avoid foliar spraying during the warmer hours of the day; absorption at high temperatures is very poor and plants may be exposed to stress and suffer scorching.
- Dew formation after foliar application is an important aid to prolonged penetration, because of resolubilization of the fertilizers in the dew collected on the leaves.
- Spraying should take place under minimal wind conditions. This is especially important with finely atomized sprays, as they drift readily.
- Always spray when soil moisture is sufficient. Leaves will then be turgid and not susceptible to water stress. Consider irrigating on the day prior to spraying.
- Avoid foliar spraying just before rainfall or overhead irrigation in order to prevent the sprayed material being washed off.
- The optimum pH for a foliar spray is slightly acidic (5 ± 0.5).
- The use of a suitable wetting agent or surfactant decreases the surface tension of the spray droplets, which improves the distribution of the droplets, increases the wetted surface area, reduces burning/scorching of the leaves, and improves the uptake of the product. Always check the compatibility of the surfactant with the foliar fertilizer.
- Ensure that the fertilizer is fully soluble. No special equipment is required – foliar solutions can be applied with the aid of conventional spray equipment, e.g. a fan sprayer, a backpack sprayer, a sleeve sprayer, an aerial sprayer, etc.
- Select the appropriate sprayer volume and pressure for each crop. Using the correct volume of spray is essential to achieve full coverage of the plant canopy.

Agroleaf® Liquid

Booster

25-0-0+2MgO+TE

Agroleaf Liquid Booster Benefits

- Designed to boost vegetative growth
- Boosts the protein level of cereal grains
- Enriched with a complete package of chelated trace elements
- Thanks to HEEDTA chelated iron this product can be used in a wider pH range

GUARANTEED ANALYSIS

w/w	g/l	
25	312.5	**TOTAL NITROGEN (N)** 8% Urea-N ($N\text{-}NH_2$) 2.8% Ammoniacal – N ($N\text{-}NH_4$) 4.2% Nitric – N ($N\text{-}NO_3$)
2	25	**MAGNESIUM OXIDE (MgO)**
0.020	0.254	Boron (B)
0.002	0.025	Copper (Cu) EDTA
0.060	0.762	Iron (Fe), HEEDTA
0.030	0.381	Manganese (Mn), EDTA
0.001	0.012	Molybdenum (Mo)
0.015	0.190	Zinc (Zn), EDTA

PRODUCT CHARACTERISTICS

Packaging: 1 x 10 liter
Product code: 3167.03.10GA
pH: 6.5
EC (mS/cm) at 1 g/l: 0.51
Density (at 25°C), g/ml: 1.25

CROP RECOMMENDATIONS	DOSAGE, LTR/HA	TIMING
Vegetables, in general	3-6	Establishment and vegetative growth, 2-3 times
Brassicas, Cauliflower, Broccoli	3-6	Vegetative growth, 3-4 times
Onion / Garlic	3-6	From 2-3 leaves up to 8-9 leaves, 2-3 times
Soft fruits, Orchards, Vineyards	3-6	Vegetative growth, 1-2 times
Cereals	5-10	1st internode – before flowering, 2-3 times
Corn	5-10	From 4-6 leaves, 1-2 times
Oil seed rape	5-10	Vegetative growth - 1st bud visible, 1-2 times
Ornamentals	2-3	Vegetative growth, 1-2 times

Agroleaf® Liquid

Balance

10-10-10+TE

Agroleaf Liquid Balance Benefits

- Provides balanced nutrition for different plant stages
- Enriched with a complete package of chelated trace elements
- Thanks to HEEDTA chelated iron this product can be used in a wider pH range

GUARANTEED ANALYSIS

w/w	g/l	
10	127	**TOTAL NITROGEN (N)** 10% Urea N ($N\text{-}NH_2$)
10	127	**PHOSPHORUS PENTOXIDE (P_2O_5),** water soluble 4.36% Phosphorus (P)
10	127	**POTASSIUM OXIDE (K_2O),** water soluble 8.3% Potassium (K)
0.020	0.254	Boron (B)
0.002	0.025	Copper (Cu) EDTA
0.060	0.762	Iron (Fe), HEEDTA
0.030	0.381	Manganese (Mn), EDTA
0.001	0.012	Molybdenum (Mo)
0.015	0.190	Zinc (Zn), EDTA

PRODUCT CHARACTERISTICS

Packaging: 1 x 10 liter
Product code: 3165.03.10GA
pH: 6.5
EC (mS/cm) at 1 g/l: 0.42
Density (at 25°C), g/ml: 1.27

CROP RECOMMENDATIONS	DOSAGE, LTR/HA	TIMING
Vegetables, in general	3-6	Establishment and vegetative growth, 1-2 times
Brassicas, cauliflower, broccoli	3-6	After row closure, 1-2 times
Onion / garlic	3-6	After 8-9 leaves, 1-2 times
Soft fruits, orchards, vineyards	1-4	Vegetative growth, 1-2 times
Cereals	3-6	2nd internode – flag leaf
Corn	3-6	At 8-10 leaves
Oil seed rape	3-6	Autumn or early spring
Sunflower, beans, soybeans	3-6	At 4-6 leaves
Ornamentals	2-3	During the entire crop cycle, 2-3 times

Agroleaf® Liquid

High N
15-5-5+TE

Agroleaf Liquid High N Benefits

- Designed to promote vegetative growth
- Prevents and/or corrects nitrogen deficiency
- Enriched with a complete package of chelated trace elements
- Thanks to heedta chelated iton this product can be used in a wider ph range

GUARANTEED ANALYSIS

w/w	g/l	
15	178.5	**TOTAL NITROGEN (N)** 15% Urea N ($N\text{-}NH_2$)
5	59.5	**PHOSPHORUS PENTOXIDE (P_2O_5),** water soluble 2.18% Phosphorus (P)
5	59.5	**POTASSIUM OXIDE (K_2O),** water soluble 4.15% Potassium (K)
0.02	0.238	Boron (B)
0.002	0.028	Copper (Cu) EDTA
0.06	0.714	Iron (Fe), HEEDTA
0.03	0.357	Manganese (Mn), EDTA
0.015	0.178	Zinc (Zn), EDTA
0.001	0.012	Molybdenum (Mo)

PRODUCT CHARACTERISTICS

Packaging: 1 x 10 liter
Product code: 3163.03.10GA
pH: 6.5
EC (mS/cm) at 1 g/l: 0.21
Density (at 25°C), g/ml: 1.19

CROP RECOMMENDATIONS	DOSAGE, LTR/HA	TIMING
Vegetables, in general	3-6	Establishment and vegetative growth, 2-3 times
Brassicas, Cauliflower, Broccoli	3-6	Vegetative growth, 3-4 times
Onion / Garlic	3-6	From 2-3 leaves up to 8-9 leaves, 2-3 times
Soft fruits, Orchards, Vineyards	3-6	Vegetative growth, 1-2 times
Cereals	5-10	1st internode – before flowering, 2-3 times
Corn	5-10	From 4-6 leaves, 1-2 times
Oil seed rape	5-10	Vegetative growth - 1st bud visible, 1-2 times
Ornamentals	2-3	Vegetative growth, 1-2 times

Agroleaf® Liquid

High P
5-25-5+TE

Agroleaf Liquid High P Benefits

- Designed to prevent and/or correct phosphorus deficiency
- Boosts root development and flowering
- Enriched with a complete package of chelated trace elements
- Thanks to heedta chelated iron this product can be used in a wider ph range

GUARANTEED ANALYSIS

w/w	g/l	
5	65.5	**TOTAL NITROGEN (N)** 5% Ammoniacal – N ($N\text{-}NH_4$)
25	327.5	**PHOSPHORUS PENTOXIDE (P_2O_5),** water soluble 10.9% Phosphorus (P)
5	65.5	**POTASSIUM OXIDE (K_2O),** water soluble 4.15% Potassium (K)
0.020	0.254	Boron (B)
0.002	0.025	Copper (Cu) EDTA
0.060	0.762	Iron (Fe), HEEDTA
0.030	0.381	Manganese (Mn), EDTA
0.001	0.012	Molybdenum (Mo)
0.015	0.190	Zinc (Zn), EDTA

PRODUCT CHARACTERISTICS

Packaging: 1 x 10 liter
Product code: 3169.03.10GA
pH: 6.5
EC (mS/cm) at 1 g/l: 0.85
Density (at 25°C), g/ml: 1.31

CROP RECOMMENDATIONS	DOSAGE, LTR/HA	TIMING
Fruiting vegetables	3-6	1 week after planting, before and after flowering, 2-3 times
Leafy vegetables, Brassicas, Cauliflower, Broccoli	3-6	After planting, 1-2 times
Onion / Garlic	3-6	At 2-3 leaves, 1-2 times
Soft fruits, Orchards, Vineyards	3-6	Before flowering and 2 weeks before harvest, 1-2 times
Cereals	3-6	2nd internode – flag leaf
Corn	3-6	At 4-6 leaves
Oil seed rape	3-6	Autumn or early spring
Potato	3-6	Before tuber initiation, 1-2 times
Ornamentals	2-3	1 week after potting or emergence and before flowering, 1-2 times

Agroleaf® Liquid

High K
8-8-16+TE

Agroleaf Liquid High K Benefits

- Designed to prevent and/or correct potassium deficiency
- Increases fruit size and intensifies their color
- Enriched with a complete package of chelated trace elements
- Thanks to heedta chelated iron this product can be used in a wider ph range

GUARANTEED ANALYSIS

w/w	g/l	
8	**108.8**	**TOTAL NITROGEN (N)** 8% Urea-N ($N\text{-}NH_2$)
8	**108.8**	**PHOSPHORUS PENTOXIDE (P_2O_5),** water soluble 3.49% Phosphorus (P)
16	**217.6**	**POTASSIUM OXIDE (K_2O),** water soluble 13.28% Potassium (K)
0.020	0.254	Boron (B)
0.002	0.025	Copper (Cu) EDTA
0.060	0.762	Iron (Fe), HEEDTA
0.030	0.381	Manganese (Mn), EDTA
0.001	0.012	Molybdenum (Mo)
0.015	0.190	Zinc (Zn), EDTA

PRODUCT CHARACTERISTICS

Packaging: 1 x 10 liter
Product code: 3166.03.10GA
pH: 6.5
EC (mS/cm) at 1 g/l: 0.74
Density (at 25°C), g/ml: 1.36

CROP RECOMMENDATIONS	DOSAGE, LTR/HA	TIMING
Fruiting vegetables	5-10	Fruit set - harvest, 4-5 times
Salads, Cabbages	3-6	After head formation, 2-3 times
Onion / Garlic	3-6	At bulb enlargement, 1-2 times
Soft fruits, Orchards, Vineyards	5-10	Fruit set - 2 weeks before harvest, 4-5 times
Sunflower	3-6	Beginning of flowering
Oil seed rape	3-6	Beginning of flowering
Potato	3-6	Tuber growth, 2-3 times
Ornamentals	2-3	Before and after flowering, 1-2 times

Agroleaf® Liquid

MolyB

4-16-4+0.1B+2Mo

Agroleaf Liquid MolyB Benefits

- Designed to prevent and/or correct potassium deficiency
- Increases fruit size and intensifies their color
- Enriched with a complete package of chelated trace elements
- Thanks to heedta chelated iron this product can be used in a wider ph range

GUARANTEED ANALYSIS

w/w	g/l	
4	49.2	**TOTAL NITROGEN** 1.4% Urea-N ($N\text{-}NH_2$) 2.6% Ammoniacal-N ($N\text{-}NH_4$)
16	196.8	**PHOSPHORUS PETOXIDE (P_2O_5),** water soluble 6.98% Phosphorus (P)
4	49.2	**POTASSIUM OXIDE (K_2O)** water soluble 3.32 Potassium (K)
0.1	1.23	Boron (B)
2	24.6	Molybdenum (Mo)

PRODUCT CHARACTERISTICS

Packaging: 1 x 10 liter
Product code: 3162.03.10GA
pH: 5.2
EC (mS/cm) at 1 g/l: 0.49
Density (at 25°C), g/ml: 1.23

CROP RECOMMENDATIONS	DOSAGE, LTR/HA	TIMING
Fruiting vegetables, Potato	0.5-1	During the entire crop cycle. For open field grown crops - after the row closure
Legumes (soy beans)	1-2	At 6 leaves
Cabbage, Cauliflower, Broccoli	1-3	From 6-8 leaves, 2-3 times
Oil seed rape	0.5-1	In autumn
	1-2	In spring, until flowering, 2 times
Sunflower	1-3	At 4-6 leaves
Sugarbeet	1-3	At 6-8 leaves
Oil seed rape	3-6	Autumn or early spring
Pasture	0.5-1	During the entire crop cycle, 2-3 times

Agroleaf® Liquid

Nitro-S

17-0-0+17.5 SO_3+0.4 Mn+0.4 Zn

Agroleaf Liquid Nitro-S Benefits

- Provides both nitrogen and sulfur in a single application, promoting vegetative growth, enzyme activity, and protein and oil synthesis
- Enriched with high levels of manganese (Mn) and zinc (Zn) in EDTA chelated form
- Specially developed to meet the sulfur requirements of cereals, forage grasses, and other crops. The lack of sulfur is critical to all stages of crop development

Agroleaf Liquid Nitro-S is a high-quality liquid foliar fertilizer specially designed to give optimal nutrition for maximum benefit.

GUARANTEED ANALYSIS

w/w	g/l	
17	217.6	**TOTAL NITROGEN (N)** 10.9% Urea-N (N-NH_2) 6.1% Ammoniacal-N (N-NH_4)
17.5	224	Sulphur Trioxide (SO_3)
0.4	5.12	Manganese (Mn), EDTA
0.4	5.12	Zinc (Zn), EDTA

PRODUCT CHARACTERISTICS

Packaging: 10 liter
Product code: 3164.031.0GA
pH: 5.4 (at 1 g/L)
EC (mS/cm) at 1 g/l: 0.91
Density (at 25°C), g/ml: 1.28

CROP RECOMMENDATIONS	DOSAGE, LTR/HA	TIMING
Vegetables	3-6	Establishment and vegetative growth, 2-3 times
Cabbage, cauliflower, and broccoli	3-6	Vegetative growth, 2-4 times
Soft fruit, orchards, and vineyards	3-6	Vegetative growth, 2-4 times
Legumes and alfalfa	5-10	Vegetative growth, 2-3 times
Cereals	5-10	1st Internode - before flowering, 2-3 times
Maize	5-10	From 4-6 leaves, 1-2 times
Rape seed	5-10	Vegetative growth, 1 time
		Budding, 1-2 times

Agroleaf® Liquid

Magnesium
10% MgO

Agroleaf Liquid Magnesium Benefits

- Designed to prevent and control magnesium deficiency
- Suitable for a wide variety of crop

Magnesium is the central part of the chlorophyll molecule, which plays a key role in photosynthesis. It increases iron utilization and acts as phosphorus carrier of phosphorus in the plant. It is both an enzyme-activator and constituent of many enzymes.

GUARANTEED ANALYSIS

w/w	g/l	
7	95.5	**TOTAL NITROGEN)** 7% Nitric -N ($N\text{-}NO_3$)
10	137	**MAGNESIUM OXIDE (MgO)** 6% Magnesium (Mg)

PRODUCT CHARACTERISTICS

Packaging: 1 x 10 liter
Product code: 3161.03.10GA
pH: 5.1
EC (mS/cm) at 1 g/l: 0.87
Density (at 25°C), g/ml: 1.37

CROP RECOMMENDATIONS	DOSAGE, LTR/HA	TIMING
Vegetables, in general	3-6	During the entire crop cycle, 3-4 times
Potato	3-6	After flowering, 2-3 times
Onion / Garlic	3-6	After 5-6 leaves, 2-3 times
Soft fruits, Orchards, Vineyards	3-6	From fruit set - harvest, 3-4 times
Cereals	3-6	2nd internode – flag leaf
Corn	3-6	At 8-10 leaves
Oil seed rape	3-6	Spring till flowering

Agroleaf® Liquid

Manganese
6% Mn

Agroleaf Liquid Manganese Benefits

- Formulated to prevent and control manganese deficiency
- Suitable for a wide variety of crops
- This product is free from na

Manganese plays a key role in the photosynthetic activity of the plant. It is directly involved in the increase of dry matter content and contributes to abiotic stress tolerance.

GUARANTEED ANALYSIS

w/w	g/l	
6	78	MANGANESE (MN) 6% Mn-EDTA chelated

PRODUCT CHARACTERISTICS

Packaging: 1 x 10 liter
Product code: 3160.03.10GA
pH: 5.6
EC (mS/cm) at 1 g/l: 0.3
Density (at 25°C), g/ml: 1.3

CROP RECOMMENDATIONS	DOSAGE, LTR/HA	TIMING
Fruiting vegetables	1-2	During the entire crop cycle, 3-4 times
Potato	1-2	Beginning of row closure, 2-3 times
Oil seed rape	1-2	Spring till flowering
Corn	1-2	At 4-6 leaves
Cereals	1-2	Early in Spring
Sugarbeet	1-2	At 6-8 leaves
Soft fruits, Orchards, Vineyards	1-2	From fruit set - harvest, 3-4 times

Agroleaf® Liquid

Zinc
8% Zn

Agroleaf Liquid Zinc Benefits

- Designed to prevent and control zinc deficiency
- Suitable for a wide variety of crops
- This product is free from na

Zinc is a key micronutrient for the plants to obtain high yields. It's involved in auxin formation, protein and chlorophyll synthesis. It helps root development and starch formation.

GUARANTEED ANALYSIS

w/w	g/l	
8	110.4	**ZINC (ZN)** 8% Zn-EDTA chelated

PRODUCT CHARACTERISTICS

Packaging: 1 x 10 liter
Product code: 3147.03.10GA
pH: 6.3
EC (mS/cm) at 1 g/l: 0.37
Density (at 25°C), g/ml: 1.38

CROP RECOMMENDATIONS	DOSAGE, LTR/HA	TIMING
Fruiting vegetables	1-3	During the entire crop cycle, 3-4 times
Potato	2-3	Before and after flowering
Sunflower	2-3	At 4-6 leaves
Corn	2-3	At 4-6 leaves
Cereals	1-2	Early in spring
Strawberry	2-3	Flower bud and after flowering
Soft fruits, Orchards, Vineyards	3-6	From fruit set - harvest, 3-4 times

Agroleaf® Liquid

Iron

4.4% Fe

Agroleaf Liquid Iron Benefits

- Designed to prevent and control iron deficiency
- Suitable for a wide variety of crops

Iron is essential for proteins and chlorophyll synthesis. It is an important factor in many enzymes associated with energy transfer and respiratory systems, as well as for nitrogen reduction and fixation.

GUARANTEED ANALYSIS

w/w	g/l	
4.4	52.3	IRON (FE) 4.4% Fe-EDTA chelated

PRODUCT CHARACTERISTICS

Packaging: 1 x 10 liter
Product code: 3168.03.10GA
pH: 5.5
EC (mS/cm) at 1 g/l: 0.16
Density (at 25°C), g/ml: 1.19

CROP RECOMMENDATIONS	DOSAGE, LTR/HA	TIMING
Fruiting vegetables	3-6	During the entire crop cycle, 3-4 times
Strawberry	3-6	During the entire crop cycle, 3-4 times
Blueberry	3-6	During the entire crop cycle, 3-4 times
Other soft fruits	3-6	During the entire crop cycle, 3-4 times
	5-8	For curative applications
Orchards	3-4	After fruit set - harvest 1-2 times
	5-8	For curative applications
Vineyards	3-6	During the entire crop cycle, 3-4 times
	5-8	For curative applications
Ornamentals	2-3	During the entire crop cycle, 3-4 times

Agroleaf® Crop

Agroleaf Crop range

Agroleaf Crop is designed as a preventive foliar product being part of a complete fertilizer plan. The Agroleaf Crop range comprises fully soluble formulations that contain both macro-, meso- and micro-nutrients and a special designated trace mix for every crop's need. Agroleaf Crop requires a lower volume of spray for application, reducing the nutrient cost per hectare. It can be easily tank mixed with a large number of plant protection products. Foliar feeds from Agroleaf Crop fit into all fertilization programs and are chloride-free and fully soluble.

Agroleaf Crop Cereal 26-10-15+2MgO+TE
is a fully water-soluble foliar feed, contains a special NPK formulation plus a specific chelated trace elements package, particularly Iron, which makes the product stable in various pH conditions.

Agroleaf Crop Maize 7-48-7+4MgO+TE
is a fully water-soluble foliar feed, contains a special NPK formulation plus a specific trace elements package.

Agroleaf Crop Oil Seed 6-18-31+2MgO+TE
is a fully water-soluble foliar feed, contains a special NPK formulation plus a specific trace elements package, particularly Boron, Manganese and a high level of Sulphur.

Agroleaf Crop Potato 5-36-25+2MgO+TE
is a fully water-soluble foliar feed, a special NPK formulation plus a specific trace elements package, particularly Boron, Manganese and Zinc.

Foliar Feed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