IKAR®

LIQUID FERTILIZERS

CATALOGUE

ISO 9001
ISO 45001
ISO 14001

REACH COMPLIANCE

2026

MADE IN EUROPE, LITHUANIA

INTRODUCTION

„I come from a family that taught me to respect every honest profession, and summers working in the countryside taught me the rest.

That's why I value quality above everything: when you work with growers, you can't afford promises that don't hold up.

In 2016, I started IKAR with one quiet commitment - quality first, guided by science - to make the world a little better and help Lithuania feel proud of what it can create.

Today, I pass these values on to the next generation.

Team, thank you for walking this road with me."

Arminas Kildišis
Founder & CEO, IKAR Liquid Fertilizers

IKAR LIQUID FERTILIZERS is a premium manufacturer of liquid fertilizers, with formulas chosen by professional farms worldwide. The company was founded in Lithuania in 2013 with a clear vision to bring precision, sustainability and scientific innovation to modern agriculture.

From the start, we have combined cutting-edge research and development (R&D) with practical farm experience to develop solutions that are not only effective but also responsible towards the soil and the environment.

Today, our commitment is even stronger:

- to develop the most innovative, efficient and earth-friendly formulas;
- to ensure that every solution helps the farmer produce a stronger crop at lower cost;
- to work with the farming community and grow together – the farmer, the farm and the future.

Our in-house laboratory, international partnerships and long-term dedication to science allow us to develop solutions that meet the highest standards of global agriculture – from Europe to Asia, Africa, and Latin America.

IKAR – Precision in Every Drop, Sustainability in Every Field

2013 – IKAR starts collaboration with research and development (R&D) laboratories in the UK.

2014 – IKAR brand gains international recognition. 30 different fertilizer formulations are developed, and pilot samples are prepared and certified for distribution to distributors and end users.

2015 – Introducing a strengthened product line with value-added additives.

2016 – The IKAR plant expands its research and development (R&D) centre and sets up a laboratory.

2017 – The productivity of IKAR's fertilizer plant has increased. The company expands its international distribution network in Eastern Europe.

2018 – The company is expanding its scientific activities and product range. IKAR's distribution network expands to South and North America.

2019 – IKAR develops product classifications and introduces new products to the markets. The company's distribution network is expanding into new regions: Europe, South America, Asia and the MENA (Middle East and North Africa) region.

2020 – IKAR's network of distributors in Europe is expanding. ISO standards and REACH certification for production are introduced. The company's product portfolio grows to 60 formulas. Production capacity increases by 400%.

2021 – The company starts production for orders of other brands. The chemistry laboratory is expanded, with advanced equipment for studying the chemical composition of materials. The company is also expanding its distribution territory to more than 20 countries worldwide.

2022 – The company opens a Central European office in Italy. The company expanded distribution channels in Central and South America. Private label production is launched in partnership with major EU companies. The company's R&D&I centre starts providing laboratory testing services to external customers.

2023 – IKAR is growing rapidly and expanding its market share in over 30 countries. Highlights include the development of two unique biostimulators ("Game-changers") and the introduction of the soil improvement product line IMPROVE In addition, a powerful ISO-certified business management system has been put in place and the team of qualified agronomists has been expanded. Active participation in international exhibitions has led to wider recognition worldwide. Two projects, part-funded by the European Union, have also been successfully implemented.

2024 – The IKAR brand is registered in 35 countries worldwide. The colours of the logo have been changed and the colours of the national flag have been adapted to the new design – yellow, green and red. R&D activities have been strengthened, bringing in scientists and experts in the field to further develop research and innovation.

2025 – The DIPLO line – advanced microbiological solutions for sustainable agriculture. The in-house microbiology laboratory is set up to strengthen internal research. International R&D partnerships with Anadiag (Italy), Agrinet2000 (Italy), universities in Poland, research centres in Belgium and Latvia have been expanded, thus broadening our scientific network. We carry out research with agro-drones.

2026 – We are taking steady steps towards development and science.

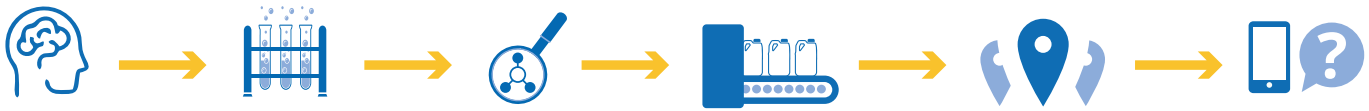
ABOUT US

Science is our foundation
IKAR fertilizers are developed precisely according to the climate, soil and crop characteristics of each market. Our R&D&I centre, in-house laboratory and close cooperation with farmers and distributors allow us to react quickly to changes and offer tailor-made solutions.

Top quality raw materials
We use only the highest quality raw materials to ensure concentrated and safe formulas. Carefully selected ingredients allow us to avoid the risk of phytotoxicity and ensure stable performance. Strict quality control and modern production lines guarantee premium standards at every stage.

Global network
IKAR's network of distributors is made up of trusted professionals around the world. We carefully select and train our partners to ensure that farmers receive not only advanced formulas, but also reliable technical support and knowledge.

Sustainability in action
Our factory implements environmentally friendly and energy-efficient technologies that reduce production costs while protecting the environment. We treat sustainability not as a declaration, but as a principle that is implemented in every decision.



DISTRIBUTORS

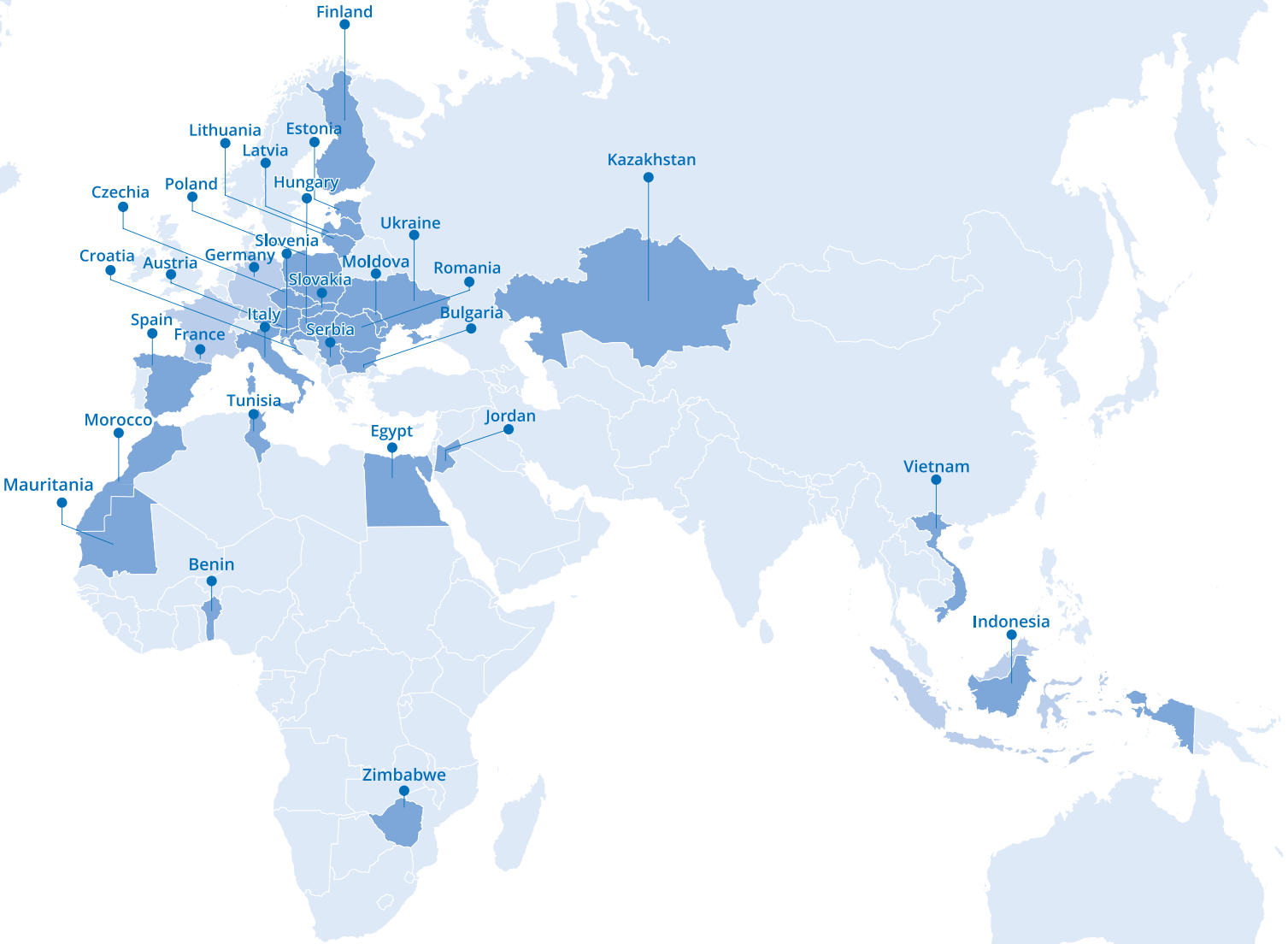
IKAR pays particular attention to cooperation with the distributor network. Our partners are professionals with experience in their country's agricultural sector and a commitment to long-term success. The main requirements for partners are professionalism, ability to develop and desire to build a reliable, long-term partnership.

Why become an IKAR distributor?

- **Premium products –** we offer high quality, effective formulas tailored to the market.
- **Expert support –** provided through regular consultations with professional agronomists and production technologists.
- **Knowledge and training –** we organise seminars, training and product presentations for distributors.
- **Network synergy –** we provide the opportunity to exchange experiences with partners in other countries at the annual IKAR distributor meetings.
- **Comprehensive support –** managerial, administrative and logistical assistance.
- **Marketing partnership –** participation in exhibitions, promotional material and communication support.
- **Global trust –** IKAR solutions are used in more than 30 countries worldwide.

- Austria
- Benin
- Bulgaria
- Croatia
- Czech Republic
- Egypt
- Estonia
- Finland
- France
- Ghana
- Germany
- Greece
- Guatemala
- Honduras
- Hungary
- Indonesia
- Italy
- Jordan
- Kazakhstan
- Latvia
- Lithuania
- Mauritania
- Moldova
- Morocco
- Nicaragua
- Poland
- Romania
- Serbia
- Slovakia
- Slovenia
- Spain
- Thailand
- Tunisia
- Ukraine
- Uzbekistan
- Vietnam
- Zimbabwe

The IKAR network continues to expand actively


Finland
Lithuania
Estonia
Latvia
Hungary
Poland
Czechia
Kazakhstan
Ukraine
Slovenia
Croatia
Austria
Germany
Moldova
Romania
Slovakia
Spain
Italy
Bulgaria
France
Serbia
Tunisia
Jordan
Morocco
Egypt
Vietnam
Mauritania
Benin
Indonesia
Zimbabwe

PRODUCTS

IKAR technology features a unique and clear product categorisation that allows for a more precise selection of the most efficient solutions from the six IKAR product classes:

ADD VALUE – Easily absorbed fertilizer enriched with substances of high biological value that activate plant metabolism.

PHYSIO – Fertilizer with physiologically active substances that affect the morphology, development rate and biochemical composition of the plant.

CORRECT – Modern fertilizer correctors designed to precisely address nutrient deficiencies during intensive growth.

INTENSE – A new generation of complex liquid fertilizers for intensive plant growth. They contain macronutrients supplemented with micronutrients, with their composition adapted to the crop and the stage of development.

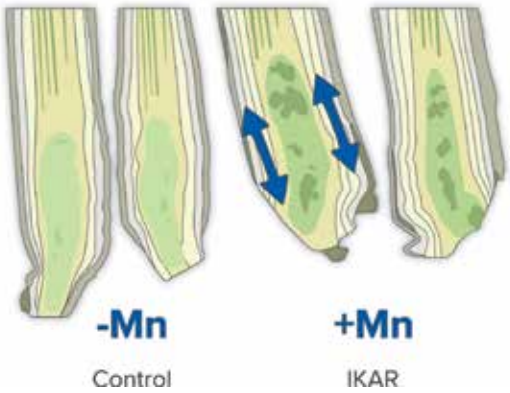
ASSIST – Substances that alter the physical properties of fertilizers – dispersion, adhesion, penetration, evaporation and pH.

IMPROVE – Sustainable green technologies that improve soil properties, increase water and mineral retention and optimise nutrient uptake.

ADD VALUE

Easily absorbed fertilizer enriched with substances of high biological value that activate plant metabolism – **adding value to the quantity and quality of the crop**.

IKAR Enzo / IKAR Enzo Pro



MANGANESE, ZINC + *L*-AMINO ACIDS

Revolutionary formula: a fertilizer specially developed by IKAR R&D with a composition of manganese (Mn), zinc (Zn) and *L*-amino acids. For the elimination and correction of manganese deficiency in the plant. Significantly reduces manganese deficiency and substantially increases its effectiveness in the plant.

Increases root mass by up to +15%

Improves photosynthetic efficiency by up to +10%

Reduces the likelihood of chlorosis by up to -12%

CHARACTERISTICS

- Strengthens roots, stems and shoots, and increases plant strength.
- Activates photosynthesis and chlorophyll synthesis.
- Increases enzyme activity.
- Improves the accumulation and transport of sugar to the roots.
- Promotes iron absorption and nitrogen metabolism.
- Promotes crop formation – better grain setting and pollen viability.
- Reduces the risk of chlorosis and physiological disorders.
- Increases resistance to abiotic factors.

Particularly suitable for root formation in cereals and oilseed crops.

Enzo

COMPOSITION	%	g/L
Manganese (Mn)	**13.0**	**200.0**
Nitrogen (N)	7.4	115.0
Nitrate nitrogen (N-NO_3)	7.4	115.0
Zinc (Zn)	0.8	12.5
***L*-Proline**	**0.33**	**5.0**
Dry matter	48.7	
Organic matter	21.2	
Organic carbon content	**12.3**	
C_{org}/N	**1.66**	
Density 20°C, g/mL	1.5 - 1.6	
pH (1:10 H_2O)	1.0 - 2.0	
Form	Liquid	

Enzo Pro

COMPOSITION	%	g/L
Manganese (Mn)	**9.2**	**140.0**
Nitrogen (N)	7.0	110.0
Nitrate nitrogen (N-NO_3)	7.0	110.0
Zinc (Zn)	4.6	70.0
Copper (Cu)	1.35	20.0
***L*-Proline**	**0.34**	**5.0**
Dry matter	37.5	
Organic matter	16.4	
Organic carbon content	**9.5**	
C_{org}/N	**1.36**	
Density 20°C, g/mL	1.5 - 1.6	
pH (1:10 H_2O)	1.0 - 2.0	
Form	Liquid	

RECOMMENDATION

Plants:	Time:		Application and dose:
Cereals	I – BBCH 10–19	(foliage growth)	For spraying: 0.5–1.0 L/ha For watering: 0.25–0.5 L/100 L
	II – BBCH 21–35	(tillering)	
Oilseed	I – BBCH 10–18	(foliage development)	
	II – BBCH 25–51	(stem growth)	
Legumes and grasses	I – BBCH 10–19	(3–5 leaves)	
	II – BBCH 30–39	(start of budding)	
Edible roots	I – BBCH 31–39	(after formation of 50% leaves)	
Tubers	I – BBCH 10–19	(formation of foliage)	
	II – BBCH 21–29	(start of stem growth)	
Vegetables	I – BBCH 11–39	(leaf and stem rowth)	
	II – BBCH 50–59	(inflorescence formation)	
Berries	I – BBCH 30–39	(formation of foliage)	
Stone fruit, fruit trees	II – BBCH 70–79	(berry/fruit setting)	
	III – BBCH 81–89	(fruiting/ripening)	

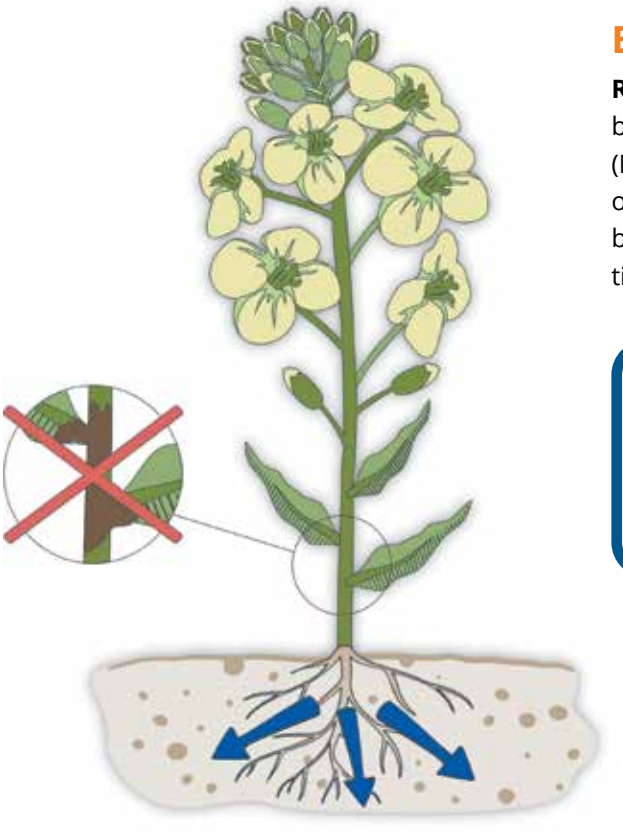
4–6 times, every 5–7 days

COMPATIBILITY

Can be used in mixtures with herbicides, most fertilizers and pesticides. Do not use with products containing high levels of copper (Cu > 2%). When mixing with other products, please note that these fertilizers have a pH of 1.0–2.0, so the pH of the solution must be measured, as the pH of the solution to be sprayed must be around 6.

IKAR® LIQUID FERTILIZERS

IKAR Bora



BORON FERTILIZER

Revolutionary formula: a fertilizer specially developed by IKAR R&D, enriched with boron (B), molybdenum (Mo) and cobalt (Co). For the elimination and correction of boron deficiency in the plant. Significantly reduces boron deficiency and substantially increases its effectiveness in the plant.

From +10% to +40% increases formation of productive crop structures

From +15% to +25% increases pollen viability

From -30% to -40% reduces the formation of rot

Particularly suitable for legumes and oilseed crops.

CHARACTERISTICS

- Improves flowering, flower and pod setting.
- Ensures a stronger root system and nutrient transport.
- Increases seed and fruit yield and quality.
- Strengthens resistance to drought, stress and disease.
- Promotes chlorophyll synthesis, photosynthesis and energy metabolism.
- Improves the accumulation of proteins, oils, sugars and starches in the plant.
- Increases the effectiveness of nitrogen fixation and the uptake of calcium and potassium.

COMPOSITION

	%	g/L
Boron (B)	**11.0**	**150.0**
Cobalt (Co)	2 ppm	
Molybdenum (Mo)	0.5	7.0
Carbohydrates	2.0	28.0
Dry matter	74.8	
Organic matter	30.9	
Organic carbon content	**17.9**	
pH (1:10 H_2O)	8.0 - 9.0	
Density 20°C, g/mL	1.4 - 1.5	
Form	Liquid	

COMPATIBILITY

Can be used in mixtures with most fertilizers and pesticides. Do not use with products containing high levels of copper (Cu > 2%). When mixing with other products, please note that these fertilizers have a pH of 8.0–9.0, so the pH of the solution must be measured and adjusted to pH 6 with dedicated products.

RECOMMENDATION

Plants:	Time:		Application and dose:
Cereals	BBCH 37–61	(from fully ormed leaf and stem growth to start of budding and flowering)	For spraying: 0.5–1.5 L/ha For watering: 0.25-0.5 L/100 L water
Oilseed crops	I–BBCH 3–15	(3–5 leaves)	
	II–BBCH 14–16	(4–6 leaves)	
	III–BBCH 33–50	(branching, start of budding)	
	IV–BBCH 50–60	(budding, start of flowering)	
Legumes and forage grasses	I–BBCH 13–15	(3–5 leaves)	
	II–BBCH 50–59	(budding)	
Edible roots	I–BBCH 12–14	(2–4 leaves)	
	II–BBCH 16–18	(6–8 leaves)	
	III–BBCH 30–39	(inter-row covering)	
Tubers	I–BBCH 11–19	(leaf and stem growth)	
	II–BBCH 40–49	(tuber formation)	
	III–BBCH 50–59	(budding)	
Vegetables	I–BBCH 41–59	(edible roots formation and growth and budding)	
Berries	II–BBCH 70–79	(berry/fruit setting)	
Stone fruit, fruit trees	III–BBCH 81–89	(fruiting/ripening)	

IKAR® LIQUID FERTILIZERS

IKAR Fosto

PHOSPHORUS FERTILIZER *L*-AMINO ACIDS

Revolutionary formula: a fertilizer specially developed by IKAR R&D with a composition of phosphorus (P), microelements and *L*-amino acids. For the elimination and prevention of phosphorus deficiency in the plant. Significantly reduces plant stress, chelating phosphorus and making it substantially more active in the plant.

Increases root area by up to +70%:
production trials have shown a significant increase in root area, allowing maximum agrobiological potential

From +12% to +18% increases root volume

From +8% to +12% improves flowering and seed formation

From +10% to +15% increases resistance to stress

Particularly suitable for use in cold and wet conditions where phosphorus is difficult to absorb from the soil.

CHARACTERISTICS

- Fast-acting unique formulation chelates phosphorus, which is incorporated into metabolic processes for maximum efficiency.
- Increases yield potential and is important for energy transfer and reproductive growth.
- Significantly reduces stress and increases resilience, significantly enhancing the ability of plants to withstand adverse conditions.

COMPOSITION

COMPOSITION	%	g/L
Phosphorus (P)	**11.1**	**165.0**
Phosphorus (P_2O_5)	**25.5**	**380.0**
Nitrogen (N)	6.5	95.0
Amide nitrogen (N-NH_2)	3.3	48.0
Nitrate nitrogen (N-NO_3)	1.9	28.0
Organic nitrogen (N-org)	1.3	19.0
Magnesium (Mg)	1.33	20.6
Magnesium (MgO)	2.2	34.0
Manganese (Mn)	0.9	13.0
Zinc (Zn)	0.5	7.0
***L*-Amino acids**	**5.4**	**80.0**
Dry matter	70.8	
Organic matter	47.3	
Organic carbon content	**27.4**	
C_{org}/N	**4.22**	
pH (1:10 H_2O)	1.5 - 2.5	
Density 20°C, g/mL	1.45 - 1.55	
Form	Liquid	

RECOMMENDATION

Plants:	Time:		Application and dose:
Cereals	I – BBCH 10–19	(foliage growth)	For spraying: 0.5–1.0 L/ha For watering: 0.25–0.5 L/100 L
	II – BBCH 21–35	(tillering)	
Oilseed	I – BBCH 10–18	(foliage development)	
	II – BBCH 25–51	(stem growth)	
Legumes and grasses	I – BBCH 10–19	(3–5 leaves)	
	II – BBCH 30–39	(start of budding)	
Edible roots	I – BBCH 31–39	(after formation of 50% leaves)	
Tubers	I – BBCH 10–19	(formation of foliage)	
	II – BBCH 21–29	(start of stem growth)	
Vegetables	I – BBCH 11–39	(leaf and stem growth)	
	II – BBCH 50–59	(inflorescence formation)	
Berries	I – BBCH 30–39	(formation of foliage)	
Stone fruit, fruit trees	II – BBCH 70–79	(berry/fruit setting)	
	III – BBCH 81–89	(fruiting/ripening)	

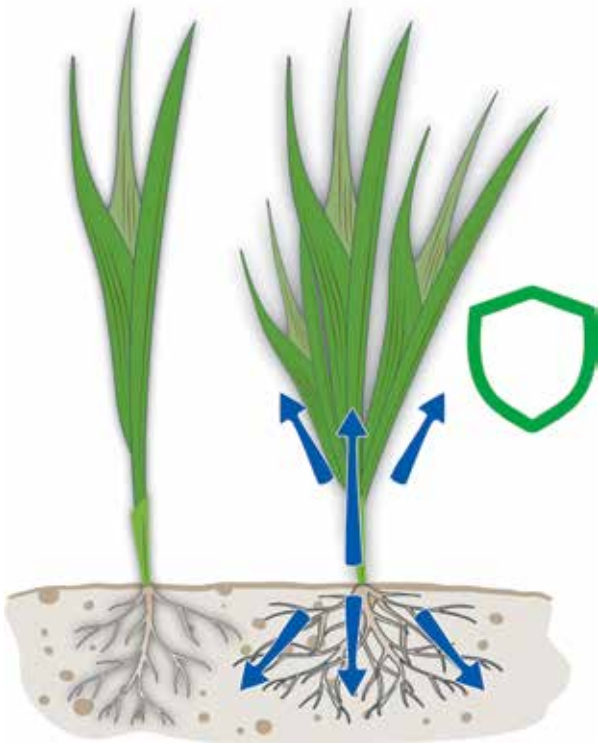
4–6 times, every 5–7 days

COMPATIBILITY

Can be used in mixtures with most fertilizers and pesticides. Do not use with products containing high levels of copper (Cu > 2%), or with seed treatments labelled “do not mix with fertilizers”. When mixing with other products, please note that these fertilizers have a pH of 1.5–2.5, so the pH of the solution must be measured, as the pH of the solution to be used must be around 6.

IKAR® LIQUID FERTILIZERS

IKAR Immunofit / IKAR Immunofit Pro



PHOSPHORUS, POTASSIUM, COPPER + BIOSTIMULANT

Revolutionary formula: a fertilizer specially developed by IKAR R&D with a composition of phosphorus (P), potassium (K), copper (Cu) and biostimulants. For the elimination and prevention of phosphorus deficiency in the plant. Significantly reduces plant stress, chelating phosphorus and making it substantially more active in the plant.

Increases root area by up to +70%:
production trials have shown a significant increase in root area, allowing maximum agrobiological potential

From +12% to +18% increases root volume

From +8% to +12% improves flowering and seed formation

From +10% to +15% increases resistance to stress

Particularly suitable for use in cold and wet conditions where phosphorus is difficult to absorb from the soil.

CHARACTERISTICS

- Fast-acting unique formulation chelates phosphorus, which is incorporated into metabolic processes for maximum efficiency.
- Increases yield potential and is important for energy transfer and reproductive growth.
- Significantly reduces stress and increases resilience, significantly enhancing the ability of plants to withstand adverse conditions.

IKAR Immunofit
COMPOSITION

	%	g/L
Phosphorus (P)	**13.3**	**182.5**
Phosphorus (P_2O_5)	**30.6**	**420.0**
Potassium (K)	**16.8**	**231.7**
Potassium (K_2O)	**20.3**	**280.0**
***L*-Proline**	**0.37**	**5.0**
Dry matter	56.6	
Dry organic matter	4.6	
Organic carbon content	**2.7**	
pH (1:10 H_2O)	4.5 - 5.5	
Density 20°C, g/mL	1.35 - 1.45	
Form	Liquid	

IKAR Immunofit Pro
COMPOSITION

	%	g/L
Phosphorus (P)	**7.8**	**100.0**
Phosphorus (P_2O_5)	**18.0**	**230.0**
Copper (Cu)	**0.5**	**6.0**
Potassium (K)	**13.3**	**170.4**
Potassium (K_2O)	**16.0**	**205.0**
Biostimulants	**3.1**	**36.2**
Dry matter	42.0	
Dry organic matter	6.7	
Organic carbon content	**3.9**	
pH (1:10 H_2O)	5.5 - 6.5	
Density 20°C, g/mL	1.25 - 1.35	
Form	Liquid	

RECOMMENDATION

Plants:	Time:		Application and dose:
Cereals	I – BBCH 10–19	(foliage growth)	For spraying: 0.5–1.0 L/ha For watering: 0.25–0.5 L/100 L
	II – BBCH 21–35	(tillering)	
Oilseed	I – BBCH 10–18	(foliage development)	
	II – BBCH 25–51	(stem growth)	
Legumes and grasses	I – BBCH 10–19	(3–5 leaves)	
	II – BBCH 30–39	(start of budding)	
Edible roots	I – BBCH 31–39	(after formation of 50% leaves)	
Tubers	I – BBCH 10–19	(formation of foliage)	
	II – BBCH 21–29	(start of stem growth)	
Vegetables	I – BBCH 11–39	(leaf and stem growth)	
	II – BBCH 50–59	(inflorescence formation)	
Berries	I – BBCH 30–39	(formation of foliage)	
Stone fruit, fruit trees	II – BBCH 70–79	(berry/fruit setting)	
	III –BBCH 81–89	(fruiting/ripening)	

4–6 times, every 5–7 days

COMPATIBILITY

Can be used in mixtures with most fertilizers and pesticides. Do not use with products containing high levels of copper (Cu > 2%). When mixing with other products, please note that these fertilizers have a pH of 5.5–6.0, so the pH of the solution must be measured and adjusted to pH 6 with dedicated products.

IKAR® LIQUID FERTILIZERS

IKAR Kalisto

POTASSIUM FERTILIZER *L*-AMINO ACIDS

Revolutionary formula: a fertilizer specially developed by IKAR R&D with a composition of potassium (K) and *L*-amino acids to correct and prevent potassium deficiency. Significantly reduces plant stress, chelating potassium making it substantially more active in the plant.

From +8% to +12% improves grain filling and seed weight

From +6% to +10% increases the oil content of oil-seed crops

From +10% to +15% increases resistance to stresses such as drought and heat

Particularly suitable for increasing seed weight and improving yield quality.

CHARACTERISTICS

- Strengthens plant stems, improves protein synthesis, plant growth and development.
- Increases osmotic pressure and water balance regulation.
- Promotes fruit ripening, quality, colour and sweetness through increased nutrient transport.
- Helps plants absorb moisture from the soil.
- Increases the drought tolerance of plants.

COMPOSITION

	%	g/L
Potassium (K)	**28.2**	**414.7**
Potassium (K_2O)	**34.0**	**500.0**
***L*-Proline**	**0.34**	**5.0**
Dry matter	57.0	
Organic matter	6.2	
Organic carbon content	**3.6**	
pH (1:10 H_2O)	11.0 - 12.0	
Density 20°C, g/mL	1.5 - 1.6	
Form	Liquid	

RECOMMENDATION

Plants:	Time:		Application and dose:
Cereals	Suitable for fertilization throughout the growing period, in particular from the beginning of germination to mid-ripening.		For spraying: 0.5–1.0 L/ha For watering: 0.25–0.5 L/100 L
Oilseed			
Legumes and grasses			
Edible roots			
Tubers			
Vegetables	I – BBCH 10–19	(formation of foliage)	
	II – BBCH 30–39	(stem extension)	
	III – BBCH 60–69	(flowering)	
	IV – BBCH 80–89	(ripening)	
Berries	I – BBCH 70–79	(berry/fruit setting)	
Stone fruit, fruit trees	II – BBCH 81–89	(fruiting/ripening)	

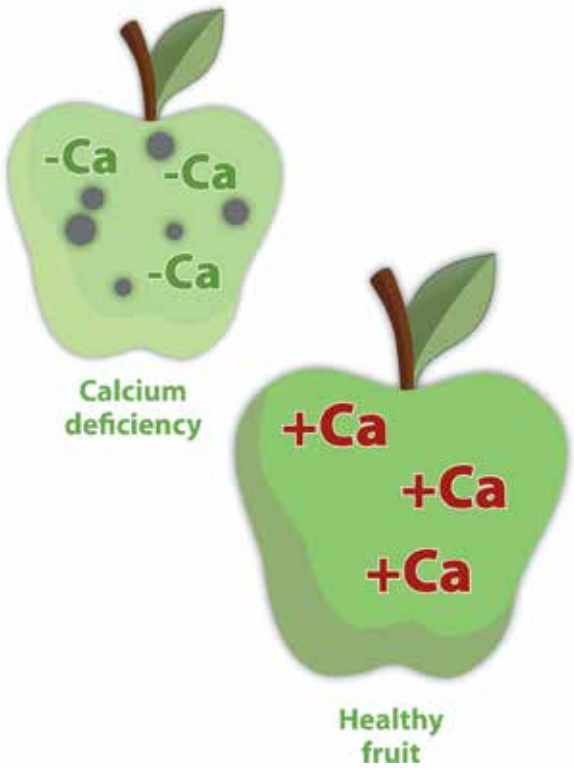
4–6 times, every 5–7 days

COMPATIBILITY

Can be used in mixtures with most fertilizers and pesticides. Do not use with products containing high levels of copper (Cu > 2%) and calcium (Ca). When mixing with other products, please note that this product has a pH of 11.0–12.0, so the pH of the solution must be measured and adjusted to pH 6 for certain products.

IKAR® LIQUID FERTILIZERS

IKAR Koral



CALCIUM FERTILIZER *L*-AMINO ACIDS

Revolutionary formula. Extra fast absorption due to the composition of calcium nitrate, potassium, boron, carbohydrates and *L*-amino acids, both when watering through the roots and when spraying on the leaves. For the treatment or prevention of calcium deficiency.

From +15% to +25% increases pollen viability

From -30% to -40% reduces rotting and fruit decomposition

From -23% to -28% reduces fruit drop

Particularly suitable for use during flowering and fruit setting, as well as for improving the quality and storage of vegetables.

CHARACTERISTICS

- Stimulates the development of roots and generative organs (flowers, fruit).
- Increases the mechanical strength of the tissues, protecting the fruit against: cracking, damage during storage and transport, physiological damage (e.g. apical rot).
- Strengthens and shapes cell walls. Ensures a high quality harvest and reduces the risk of disease and defects.
- Significantly improves the quality and quantity of harvests. Improved fruit shape, firmness, sugar content and shelf life. Reduces the number of deformed or empty fruits on all flowering plants.
- It is quickly absorbed by plants, even when the soil is dry or the roots are weak.

COMPOSITION

	%	g/L
Calcium (Ca)	**10.0**	**154.0**
Calcium (CaO)	**14.0**	**215.0**
Nitrogen (N)	8.0	120.0
Nitrate nitrogen (N-NO_3)	8.0	120.0
Potassium (K)	4.1	63.0
Potassium (K_2O)	5.0	77.0
Boron (B)	0.2	3.0
Carbohydrates	4.5	70.0
L-Methionine	0.05	0.75
L-Alanine	0.05	0.75
L-Valine	0.05	0.75
Dry matter	65.9	
Dry organic matter	19.0	
Organic carbon content	**11.0**	
C_{org}/N	**1.4**	
pH (1:10 H_2O)	5.5 - 6.5	
Density 20°C, g/mL	1.5 - 1.6	
Form	Liquid	

RECOMMENDATION

Plants:	**Time:**		**Application and dose:**
Vegetables	I – BBCH 71–79	(berry/fruit setting)	For spraying: 2-6 L/ha For watering : 1-3 L/100 L
Leafy vegetables			
Fruit trees	II – BBCH 81–89	(ripening)	
Stone fruit			

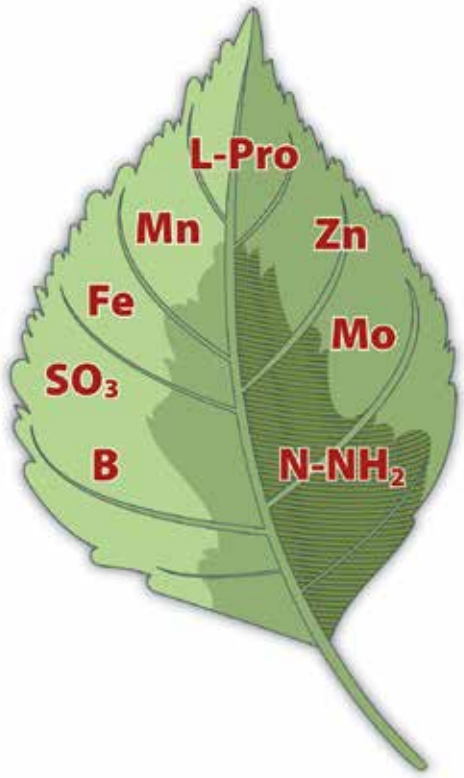
2–4 times, every 7–10 days

COMPATIBILITY

Can be used in mixtures with most fertilizers and pesticides. Do not use with products containing high levels of copper (Cu > 2%) and silicon (Si). When mixing with other products, please note that these fertilizers have a pH of 5.5–6.5, so the pH of the solution must be measured, as the pH of the solution to be sprayed must be around 6.

IKAR® LIQUID FERTILIZERS

IKAR Mendelenium



IRON + SURFACTANT + *L*-AMINO ACIDS

Revolutionary formula: a fertilizer specially developed by IKAR R&D for increased uptake of micronutrients with *L*-amino acids, iron (Fe) and surfactant. For feeding plants during intensive growth.

From +15% to +25% boosts photosynthetic efficiency, chlorophyll synthesis and enzyme activity

From +20% to +30% increases plant resistance to stress

From +18% to +28% improves microelement absorption

Particularly suitable for increasing the uptake of other products, and for adding trace elements to the fertilizer solution.

CHARACTERISTICS

- Strengthens the root system, increases disease resistance and promotes the movement of sugars to the roots.
- Involved in enzyme activity, important for roots, fruits and seeds.
- Promotes stem strength, flower and fruit formation.
- Improves chlorophyll synthesis, speeds up the formation of proteins and sugars.
- Important for enzymes, photosynthesis, stem strength and grain formation.
- Protects cells from stress.

COMPOSITION

	%	g/L
Iron (Fe)	**4.0**	**55.0**
Nitrogen (N)	4.5	68.0
Amide nitrogen (N-NH_2)	4.5	68.0
Sulphur (S)	4.0	54.0
Sulphur (SO_3)	10.0	135.0
Boron (B)	0.7	9.5
Manganese (Mn)	2.0	25.0
Molybdenum (Mo)	0.35	4.5
Zinc (Zn)	0.7	9.5
***L*-Proline**	**0.37**	**5.0**
Dry matter	61.9	0.75
Dry organic matter	41.5	
Organic carbon content	**24.1**	
C_{org}/N	**5.3**	
pH (1:10 H_2O)	6.0 - 7.0	
Density 20°C, g/mL	1.35 - 1.45	
Form	Liquid	

RECOMMENDATION

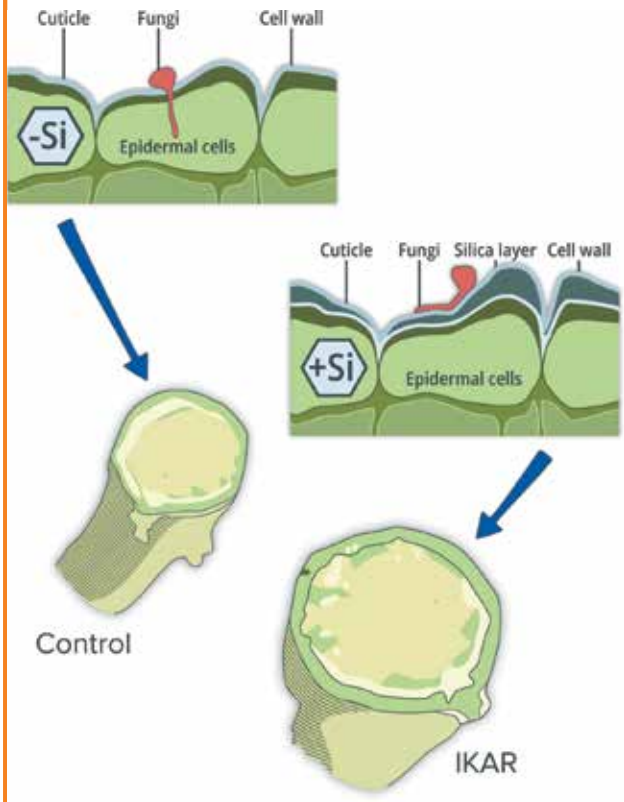
Plants:	Time:	Application and dose:
Cereals	Suitable for fertilization throughout the growing period	For spraying: 0.5–1 L/ha For watering: 0.25–0.5 L/100 L
Oilseed		
Legumes plants and grasses		
Edible roots		
Tubers		
Vegetables		
Berries		
Stone fruit, fruit trees		

COMPATIBILITY

Can be used in mixtures with most fertilizers and pesticides. Do not use with products containing high levels of copper (Cu > 2%). When mixing with other products, please note that these fertilizers have a pH of 7.0–8.0, so the pH of the solution must be measured and adjusted to pH 6 with dedicated products.

IKAR® LIQUID FERTILIZERS

IKAR Silicare



SILICON + *L*-AMINO ACIDS + SEAWEED

Revolutionary formula: a fertilizer specially developed by IKAR R&D based on silicon (Si), macroelements, *L*-amino acids and seaweed. For the effective elimination of silicon deficiency. Significantly thickens the stem and waxy layer of the plant, strengthens the tissues, and promotes resistance to diseases, pathogens, drought and temperature fluctuations.

From +10% to +15% strengthens plant tissue and thickens the stem

From +5% to +8% optimises water balance and boosts energy metabolism

From +5% to +10% promotes faster recovery from stress and plant activity

Particularly suitable for stem thickening, disease and pest prevention.

CHARACTERISTICS

- Activates root and leaf growth and promotes root formation.
- Stimulates flowering and fruit ripening, ensures better pollen viability and seed formation.
- Improves the quality and quantity of the crop, increasing dry matter, sugars, proteins and fruit quality.
- Reduces the impact of pests and pathogens through the formation of a thicker waxy layer.
- Helps the plant cope with drought, salinity, heat and cold stress.

COMPOSITION

	%	g/L
Silicon (Si)	**3.7**	**53.2**
Silicon (SiO_2)	**8.0**	**115.0**
Phosphorus (P)	4.4	63.8
Phosphorus (P_2O_5)	10.0	145.0
Potassium (K)	16.6	240.7
Potassium (K_2O)	20.0	290.0
***L*-Proline**	**0.3**	**4.3**
Seaweed	0.1	1.4
Dry matter	51.5	
Organic matter	12.0	
Organic carbon content	7.0	
pH (1:10 H_2O)	11.5 - 12.5	
Density 20°C, g/mL	1.4 - 1.5	
Form	Liquid	

RECOMMENDATION

Plants:	Time:		Application and dose:
Cereals	I – BBCH 35–39	(when plants have formed most of their foliage)	For spraying: 0.5–1.0 L/ha For watering: 0.25–0.5 L/100 L
Oilseed			
Legumes plants and grasses	II – BBCH 70–79	(setting)	
Edible roots			
Tubers	III – BBCH 81–89	(ripening)	
Vegetables			
Berries	I – BBCH 35–39	(when the plants have formed most of their foliage)	
Stone fruit, fruit trees	II – BBCH 70–79	(berry/fruit setting)	
	III – BBCH 81–89	(fruiting/ripening)	

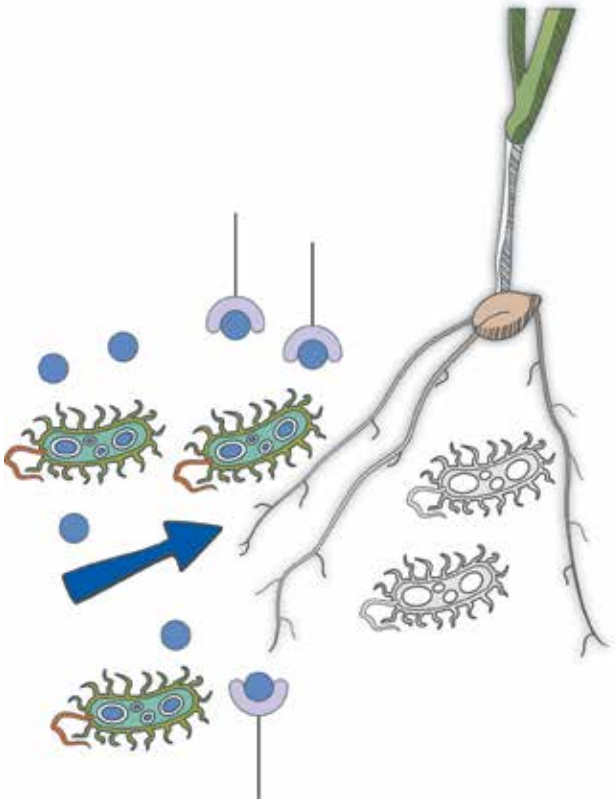
3–5 times, every 7–10 days

COMPATIBILITY

Can be used in mixtures with most fertilizers and pesticides. Do not use with products containing high levels of copper (Cu > 2%) and calcium (Ca). When mixing with other products, please note that this product has a pH of 12.0–12.5, so the pH of the solution must be measured and adjusted to pH 6 for certain products.

IKAR® LIQUID FERTILIZERS

IKAR Zinto



ZINC FERTILIZER + OLIGO-CHITOSAN

Revolutionary formula: a fertilizer specially developed by IKAR R&D with a composition of zinc (Zn), microelements and oligo-chitosan to address and correct zinc deficiency in plants. It significantly reduces zinc deficiency, substantially increases its effectiveness in the plant and, thanks to the action of oligo-chitosan, significantly improves disease resistance.

From +30% to +50% increases antioxidant activity

From +10% to +13% increases the formation of lateral shoots

From -40% to -60% inhibits disease spread

Particularly suitable for cereals.

CHARACTERISTICS

- Improves seed germination, germination vigour and development even at low temperatures.
- Strengthens the root system – improves establishment and nutrient uptake.
- Accelerates tillering and shoot growth – particularly useful for cereals.
- Improves flowering, fruit/legume setting, yield and quality.
- Strengthens plant immunity – protects against pathogens and soil diseases.

COMPOSITION

	%	g/L
Zinc (Zn)	**13.0**	**200.0**
Manganese (Mn)	1.35	20.0
Nitrogen (N)	6.6	100.0
Nitrate (N-NO_3)	6.6	100.0
Copper (Cu)	0.13	2.0
Oligo-Chitosan	0.13	2.0
Dry matter	39.2	
Dry organic matter	5.1	
Organic carbon content	**3.0**	
C_{org}/N	**0.45**	
pH (1:10 H_2O)	1.0 - 2.0	
Density 20°C, g/mL	1.55 - 1.65	
Form	Liquid	

RECOMMENDATION

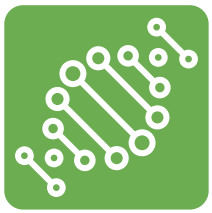
Plants:	Time:		Application and dose:
Cereals	I – BBCH 10–19	(foliage growth)	For seeds. tubers: 0.5–1.0 L/t For spraying: 0.5–1.0 L/ha For watering: 0.3–0.5 L/100 L
	II – BBCH 21–35	(tillering)	
Oilseed	I – BBCH 10–18	(foliage development)	
	II – BBCH 25–51	(stem growth)	
Legumes plants and grasses	I – BBCH 10–19	(3–5 leaves)	
	II – BBCH 30–39	(start of budding)	
Edible roots	I – BBCH 31–39	(after formation of 50% leaves)	
Tubers	I – BBCH 10–19	(formation of foliage)	
	II – BBCH 21–29	(start of stem growth)	
Vegetables	I – BBCH 11–39	(leaf and stem growth)	
	II – BBCH 50–59	(inflorescence formation)	
Berries	I – BBCH 30–39	(formation of foliage)	
Stone fruit, fruit trees	II – BBCH 70–79	(berry/fruit setting)	
	III – BBCH 81–89	(fruiting/ripening)	

4–6 times, every 5–7 days

COMPATIBILITY

Can be used in mixtures with most fertilizers and pesticides. Do not use with products containing high levels of copper (Cu > 2%), or with seed treatments labelled “do not mix with fertilizers”. When mixing with other products, please note that these fertilizers have a pH of 1.5–2.5, so the pH of the solution must be measured, as the pH of the solution to be used must be around 6.

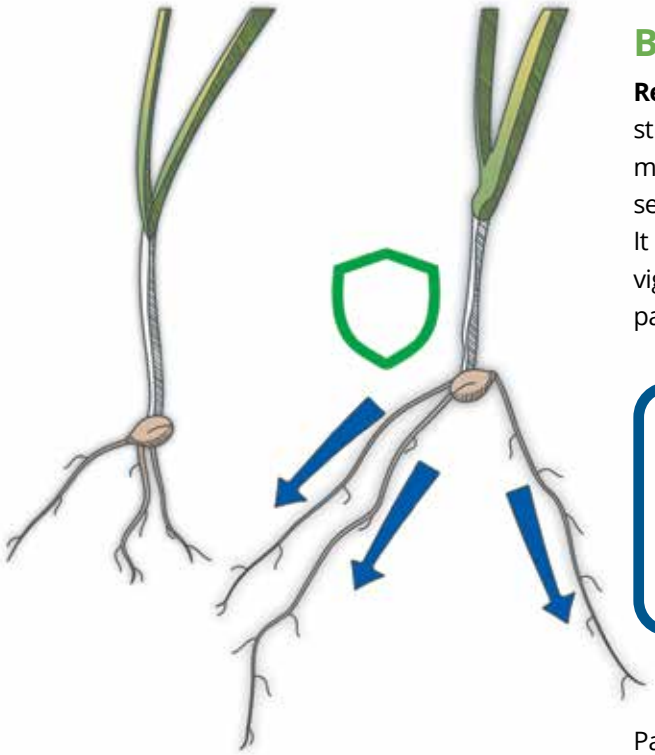
IKAR® LIQUID FERTILIZERS



PHYSIO

Fertilizers with physiologically active substances that affect
the plant's morphology, rate of development
and biochemical composition –
helping the plant maximise its genetic potential.

DIPLO Seeds



BIOSTIMULANT

Revolutionary formula: a special composition of biostimulants, *L*-amino acids, seaweed, microelements and microorganisms specially developed by IKAR R&D. For seed and tuber dressing with or without seed treatment. It promotes seed germination and increases germination vigour, while microorganisms protect the seed against pathogens.

From +15% to +20% increases seed germination

From +3% to +5% encourages the formation of more active yield structures

From -22% to -83% reduces the viability of a broad spectrum of fungal and bacterial pathogens

Particularly suitable for increasing germination vigour in plants growing in hot and dry climates.

CHARACTERISTICS

- Accelerates and evens out seed germination.
- Directs the growth of the root system to grow in a precise direction, forming the main root further down, resulting in a faster start of the growing season and greater drought tolerance.
- Stimulates cell division, lateral shoot formation and slows down ageing.
- Promotes photosynthesis and efficient nutrient accumulation.
- Helps the plant to adapt efficiently to adverse environmental conditions. Protects against stress, boosts immunity, improves disease resistance and reduces the risk of root rots.
- The microorganisms protect the seed against pathogens for up to 30 days after germination and synthesise growth-promoting phytohormones.

COMPOSITION

	%	g/L
***L*-Amino acids**	**1.2**	**14.0**
Seaweed	**7.0**	**84.0**
Carbohydrates	**10.0**	**120.0**
Biostimulants	**0.01**	**0.12**
Nitrogen (N)	4.5	54.0
Amide nitrogen (N-NH_2)	4.2	50.0
Nitrate nitrogen (N-NO_3)	0.3	4.0
Phosphorus (P)	0.9	10.5
Phosphorus (P_2O_5)	2.0	24.0
Potassium (K)	3.7	44.8
Potassium (K_2O)	4.5	54.0
Boron (B)	0.5	6.0
Iron (Fe EDDHA)	0.05	0.6
Manganese (Mn EDTA)	0.06	0.7
Molybdenum (Mo)	0.01	0.12
Zinc (Zn EDTA)	0.5	6.0
Copper (Cu EDTA)	0.02	0.24
Dry matter	58.4	
Dry organic matter	42.5	
Organic carbon content	**24.7**	
C_{org}/N	**5.5**	
pH (1:10 H_2O)	7.5 - 8.5	
Density 20°C, g/mL	1.15 - 1.25	
Form	Liquid and powder	

RECOMMENDATION

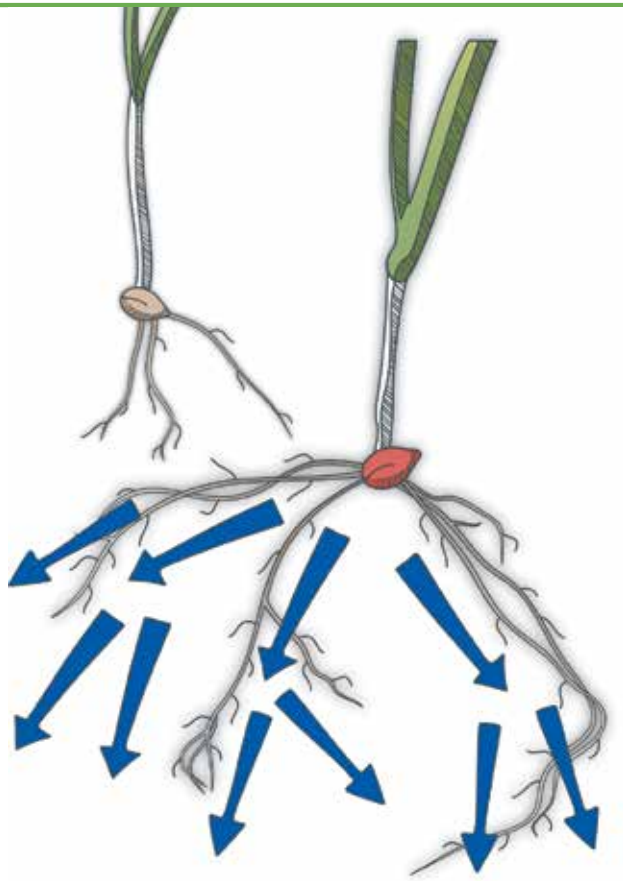
Plants:	Time:	Application and dose:
Cereals	The product is intended for seed dressing with or without seed treatment. I – BBCH 11–30 (start of vegetation)	For seeds. tubers: 0.5–1 L/t For spraying: 0.5–1 L/ha For watering: 0.3-0.5 L / 100 L
Oilseed		
Legumes		
Edible roots		
Tubers		
Vegetables		
Berries		
Stone fruit, fruit trees		

COMPATIBILITY

Can be used in mixtures with most fertilizers and pesticides. Do not use with products containing high levels of copper (Cu > 2%), or with seed treatments labelled “do not mix with fertilizers”. When mixing with other products, please note that these fertilizers have a pH of 8.5–9.0, so the pH of the solution must be measured and adjusted to pH 6 for certain products.

IKAR® LIQUID FERTILIZERS

IKAR Bigo Roots



BIOSTIMULANT

Revolutionary formula: a composition of *L*-amino acids, microelements and biostimulants specially developed by IKAR R&D. For seed and tuber dressing, with or without seed treatment, it stimulates seed germination and increases root mass.

From +5% to +10% increases seed germination

From +8% to +10% increases root density

From +7% to +12% increases root area

Particularly suitable for increasing germination vigour in overwintering plants and plants growing in cold climates.

CHARACTERISTICS

- Accelerates and evens out seed germination.
- Directs the growth of the root system in the right direction, forming more hairs, resulting in a faster start of the growing season and better overwintering.
- Stimulates cell division, lateral shoot formation and slows down ageing.
- Promotes photosynthesis and efficient nutrient accumulation.
- Helps the plant to adapt efficiently to adverse environmental conditions. Protects against stress, boosts immunity, improves disease resistance and reduces the risk of root rots.

COMPOSITION

	%	g/L
***L*-Amino acids**	**5.0**	**60.0**
Carbohydrates	**9.0**	**105.0**
Biostimulants	**0.02**	**0.17**
Nitrogen (N)	5.0	60.0
Amide nitrogen ($N\text{-}NH_2$)	3.0	36.0
Ammoniacal nitrogen ($N\text{-}NH_4$)	0.5	6.0
Organic nitrogen (N-org)	1.5	15.0
Phosphorus (P)	3.1	37.6
Phosphorus (P_2O_5)	7.0	85.0
Potassium (K)	2.5	29.2
Potassium (K_2O)	3.0	35.0
Boron (B)	0.1	1.2
Iron (Fe EDDHA)	0.07	0.75
Manganese (Mn EDTA)	0.05	0.6
Molybdenum (Mo)	0.05	0.6
Zinc (Zn EDTA)	0.1	1.2
Dry matter	35.7	
Dry organic matter	22.2	
Organic carbon content	**12.9**	
C_{org}/N	**2.6**	
pH (1:10 H_2O)	6.5 - 7.5	
Density 20°C, g/mL	1.15 - 1.25	
Form	Liquid	

RECOMMENDATION

Plants:	Time:	Application and dose:
Cereals	The product is intended seed dressing with or without seed I – BBCH 11–30 (start of vegetation)	For seeds,tubers: 0.5–1.0 L/t For spraying: 0.5–1.0 L/ha For watering: 0.3–0.5 L/100 L
Oils		
Legumes		
Edible roots		
Tubers		
Vegetables		
Berries		
Stone fruit, fruit trees		

COMPATIBILITY

Can be used in mixtures with most fertilizers and pesticides. Do not use with products containing high levels of copper (Cu > 2%), or with seed treatments labelled “do not mix with fertilizers”. When mixing with other products, please note that these fertilizers have a pH of 8.5–9.0, so the pH of the solution must be measured and adjusted to pH 6 for certain products.

IKAR® LIQUID FERTILIZERS

IKAR Bigo W

BIOSTIMULANT

Revolutionary formula: a formula of seaweed, *L*-amino acids, microelements and biostimulants, specially formulated by IKAR R&D, which activates the plant's vital processes, enhances root development and above-ground growth, and significantly reduces the plant's stress. For strengthening the root system and activating growth and tillering.

From +5% to +10% increases root length

From +8% to +10% increases root density

From +15% to +20% promotes aboveground part formation

Particularly suitable for the initial stages of plant growth, when rapid rooting, foliage formation, tillering and proportional growth before and after winter and after the resumption of vegetation are required.

CHARACTERISTICS

- Precise effect on root density formation.
- Significantly increases leaf number and leaf area.
- Enhances photosynthesis, stimulates root growth and nutrient uptake.
- Increases sugar accumulation, helping plants prepare for winter by optimising energy storage.
- Improves recovery from winter, accelerates foliage and root formation, and tillering.

COMPOSITION

	%	g/L
***L*-Amino acids**	**5.0**	**60.0**
Seaweed	**2.0**	**24.0**
Carbohydrates	**5.0**	**60.0**
Biostimulants	**0.45**	**5.4**
Nitrogen (N)	5.0	60.0
Amide nitrogen (N-NH_2)	3.7	44.0
Organic nitrogen (N-org)	1.3	16.0
Phosphorus (P)	2.2	26.0
Phosphorus (P_2O_5)	5.0	60.0
Potassium (K)	4.1	50.0
Potassium (K_2O)	5.0	60.0
Boron (B)	0.1	1.2
Iron (Fe EDTA)	0.2	2.4
Manganese (Mn EDTA)	0.1	1.2
Molybdenum (Mo)	0.01	0.12
Zinc (Zn EDTA)	0.1	1.2
Copper (Cu EDTA)	0.08	1.0
Dry matter	35.2	
Dry organic matter	19.6	
Organic carbon content	**11.4**	
C_{org}/N	**2.3**	
pH (1:10 H_2O)	6.5 - 7.5	
Density 20°C, g/mL	1.2 - 1.3	
Form	Liquid	

RECOMMENDATION

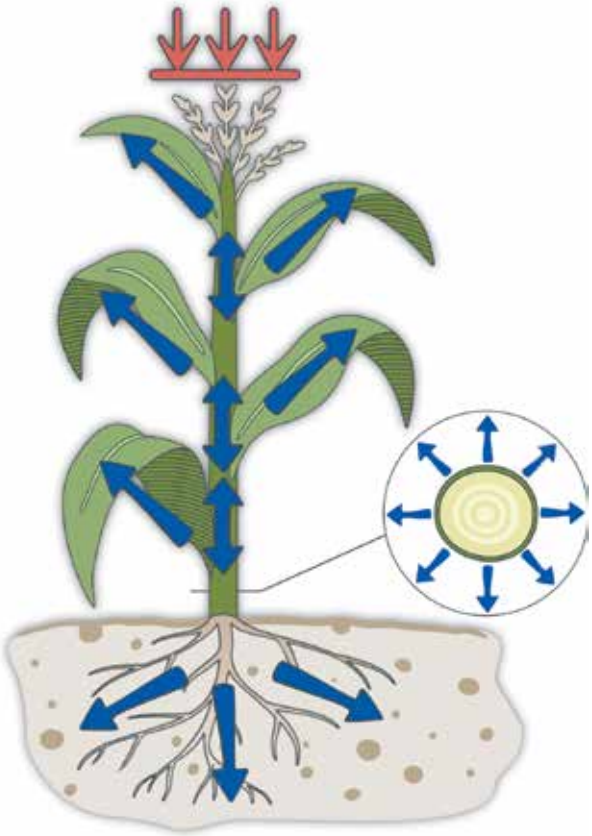
Plants:	Time:		Application and dose:
Cereals	I – BBCH 21–30	(tillering)	For seeds. tubers: 0.5–1.0 L/t For spraying: 0.5–1.0 L/ha For watering: 0.3–0.5 L/100 L
	II – BBCH 25–32	(stem elongation)	
Oilseed	I – BBCH 10–15	(3–5 leaves)	
	II – BBCH 25–32	(formation of crowns and side shoots)	
Legumes plants and grasses	I – BBCH 13–15	(3–5 leaves)	
Edible roots	I – BBCH 10–15	(2–3 leaves)	
Tubers	I – BBCH 10–15	(2–4 leaves)	
Vegetables	I – BBCH 30–39	(leaf and stem growth)	
Berries	I – BBCH 10–19	(formation of foliage)	
Stone fruit, fruit trees	II – BBCH 30–39	(formation of shoots and foliage)	
1–2 times, every 7–10 days			
Seed treatment	0.1–0.5 L/t seed		
Seedling soaking	0.3–0.5% solution for 20 min.		
Soaking of seedlings before planting	0.3–0.5% solution 0.5–1.0 h		
Cuttings are soaked	in a 1% solution for up to 8 h		

COMPATIBILITY

Can be used in mixtures with herbicides, most fertilizers and pesticides. Do not use with products containing high levels of copper (Cu > 2%), or with seed treatments labelled “do not mix with fertilizers”. When mixing with other products, please note that these fertilizers have a pH of 6.5–7.5, so the pH of the solution must be measured, as the pH of the solution to be sprayed must be around 6.

IKAR® LIQUID FERTILIZERS

IKAR Revolt



BIOSTIMULANT

Revolutionary formula: a formulation of *L*-amino acids, microelements and biostimulants specially developed by IKAR R&D. It is designed to improve plant physiology in general, to channel growth energy to the productive parts and to manage vegetative growth.

From +10% to +15% increases shoot and root growth

Up to -10% reduces the risk of wilting

From +3% to +5% increases crop quality

Particularly suitable for precision action: stops excessive stem elongation, shortens the internodes and at the same time promotes branching, tillering, flowering and fruit set.

CHARACTERISTICS

- Precisely controls the intensity of plant growth – plants do not sprout, they become stronger and more compact.
- Significantly thickens the stem, reducing the risk of wilting.
- Activates key plant life processes: cell division, differentiation, formation of new tissues and organs.
- Accelerates flowering, fruit set and ripening.
- Increased yield and quality due to better tillering, branching, nutrient uptake and a more productive aerial part.

COMPOSITION

	%	g/L
***L*-Amino acids**	**4.0**	**51.0**
Biostimulants	**0.7**	**8.6**
Nitrogen (N)	1.0	12.4
Organic nitrogen (N-org)	1.0	12.4
Phosphorus (P)	3.9	49.0
Phosphorus (P_2O_5)	9.0	112.4
Potassium (K)	8.3	102.9
Potassium (K_2O)	10.0	124.0
Boron (B)	0.4	5.0
Molybdenum (Mo)	0.2	2.5
Carbohydrates	7	90
Dry matter	39.0	
Dry organic matter	15.8	
Organic carbon content	**9.2**	
C_{org}/N	**9.2**	
pH (1:10 H_2O)	7.0 - 8.0	
Density 20°C, g/mL	1.2 - 1.3	
Form	Liquid	

COMPATIBILITY

Can be used in mixtures with most fertilizers and pesticides. Do not use with products containing high levels of copper (Cu > 2%). Do not mix with products containing >10% nitrogen (N) and >10% amino acids. When mixing with other products, please note that these fertilizers have a pH of 7.0–8.0, so the pH of the solution must be measured and adjusted to pH 6 for certain products.

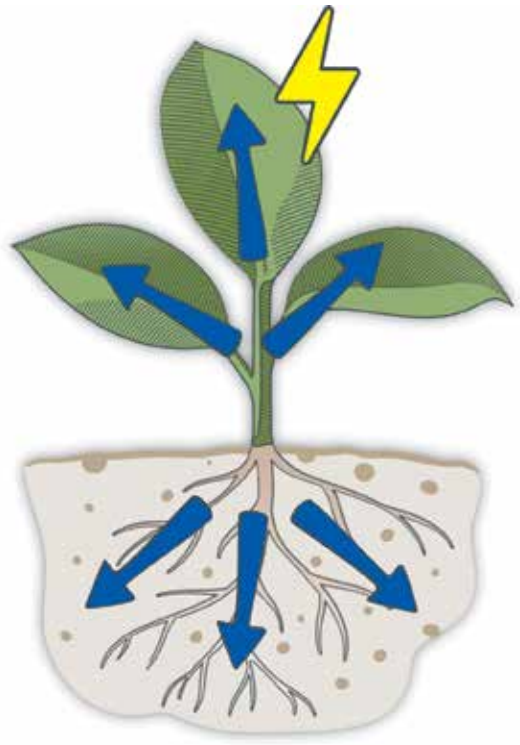
RECOMMENDATION

Plants:	Time:		Application and dose:
Cereals	I – BBCH 20–29	(tillering)	For spraying: 0.5–1.5 L/ha For watering: 0.25-0.5 L/100 L water
	II – BBCH 32–37	(stem elongation)	
	III – BBCH 37–49	(tubing)	
	IV – BBCH 70–89	(to improve qualitative indicators)	
Oilseed	I – BBCH 10-19	(3–5 leav)	
	II – BBCH 30–49	(stem extension)	
	III – BBCH 70–89	(pod growth)	
Legumes and herbs	Beans:		
	I – BBCH 21–29 II – BBCH 60–63	(plants approx. 15 cm) (flowering time)	
	Peas:		
	I – BBCH 21-29 II – BBCH 60-63	(plants approx. 10 cm) (flowering time)	
Edible roots	I – BBCH 70-89	(to improve quality indicators)	
Tubers	I – BBCH 11–29	(leaf and stem growth)	
	II – BBCH 30–35	(tuber formation)	
Vegetables	I – BBCH 10–19	(2–4 leaves)	

IMPORTANT: When using the product, it is necessary to maintain intervals of 10–15 days between spraying applications. Increase the rate of basic fertilizer application to encourage higher yields.

IKAR® LIQUID FERTILIZERS

IKAR Ocean



BIOSTIMULANT
+ 22% SEAWEED CONCENTRATE

Revolutionary formula: a formulation of seaweed *Ascophylum nodosum*, *L*-amino acids and biostimulants specially developed by IKAR R&D. For universal application to increase and prolong plant stress tolerance and recovery from stress.

From +8% to +10% stimulates protein and sugar synthesis under adverse conditions

From +10% to +15% increases drought resistance

From +10% to +14% increases antioxidant activity

Especially suitable for use before and after stress.

CHARACTERISTICS

- Improves root development, plant water balance, photosynthetic efficiency and nutrient uptake.
- Stimulates overall growth and provides a natural phytohormonal effect.
- Improves plant regeneration after stress or mechanical damage.
- Intensive action for 2 weeks.

COMPOSITION

	%	g/L
Seaweed extract	**22.0**	**250.0**
Biostimulants	**0.01**	**0.06**
***L*-Proline**	**0.45**	**5.0**
Potassium (K)	4.1	45.6
Potassium (K_2O)	5.0	55.0
Dry matter	28.1	
Dry organic matter	23.9	
Organic carbon content	**13.9**	
pH (1:10 H_2O)	9.0 - 10.0	
Density 20°C, g/mL	1.1 - 1.2	
Form	Liquid	

RECOMMENDATION

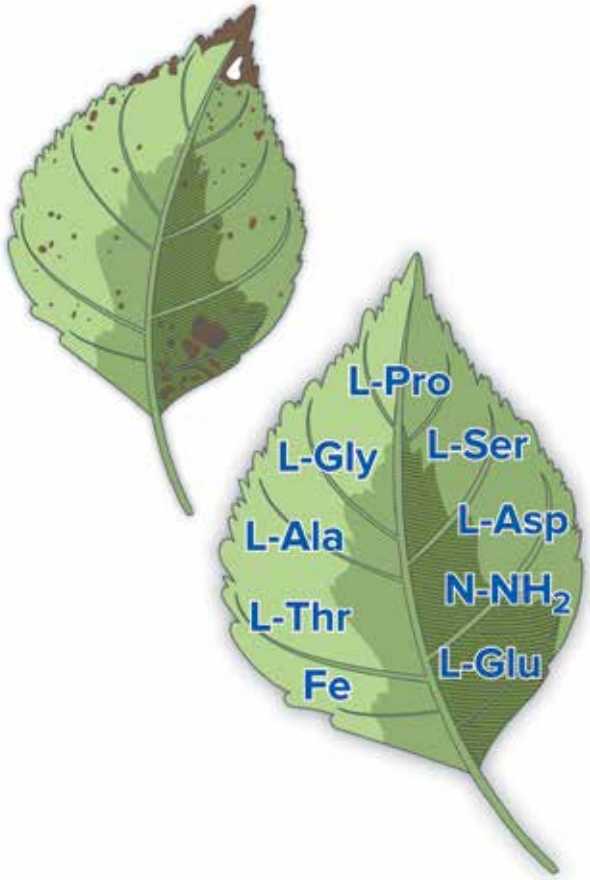
Plants:	Time:	Application and dose:
Cereals	Apply before or after frost/drought to restore the plant's immune system. Suitable for use throughout the growing	For spraying: 0.5–1 L/ha For watering: 0.3-0.5 L/100 L water
Oilseed		
Legumes		
Edible roots		
Tubers		
Vegetables		
Berries		
Stone fruit, fruit trees		

COMPATIBILITY

Can be used in mixtures with herbicides, most fertilizers and pesticides. Do not use with products containing high levels of copper (Cu > 2%). When mixing with other products, please note that these fertilizers have a pH of 9.0–10.0, so the pH of the solution must be measured and adjusted to pH 6 for certain products.

IKAR® LIQUID FERTILIZERS

IKAR Infra / IKAR Infra Pro



BIOSTIMULANT
+ 20% *L*-AMINO ACIDS CONCENTRATE

Revolutionary formula: a composition of *L*-amino acids, microelements and biostimulants specially developed by IKAR R&D. For universal application, plant stress management and post-stress recovery.

From +8% to +17% increases dry matter accumulation

From +7% to +11% increases nitrogen uptake

From +10% to +14% increases chlorophyll content

Particularly suitable for post-stress use.

CHARACTERISTICS

- Works quickly in a short time.
- Improves nutrient transport and increases the sugar and vitamin content of the plant.
- When used in combination with fertilizers, improves the uptake of fertilizers and micronutrients.
- Increases the quality, weight and flavour of the crop.
- Accelerates recovery from stress and growth.

IKAR Infra COMPOSITION

	%	g/L
Biostimulants	**5ppm**	
***L*-Amino acids**	**20.0**	**250.0**
Nitrogen (N)	6.8	80.0
Nitrate nitrogen (N-NO_3)	1.5	18.0
Organic nitrogen (N-org)	5.3	62.0
Potassium (K)	1.2	15.3
Potassium (K_2O)	1.5	18.0
Manganese (Mn)	1.2	15.0
Zinc (Zn)	1.2	15.0
Dry matter	41.6	
Dry organic matter	33.5	
Organic carbon content	**19.4**	
C_{org}/N	**2.9**	
pH (1:10 H_2O)	4.5 - 5.5	
Density 20°C, g/mL	1.2 - 1.3	
Form	Liquid	

IKAR Infra Pro COMPOSITION

	%	g/L
Biostimulants	**5ppm**	
***L*-Amino acids**	**28.0**	**340.0**
Nitrogen (N)	6.5	75.0
Organic nitrogen (N-org)	6.5	75.0
Potassium (K)	1.2	15.2
Potassium (K_2O)	1.5	1.8
Dry matter	45.6	
Dry organic matter	41.5	
Organic carbon content	**24.1**	
C_{org}/N	**3.7**	
pH (1:10 H_2O)	5.5 - 6.5	
Density 20°C, g/mL	1.2 - 1.3	
Form	Liquid	

RECOMMENDATION

Plants:	Time:	Application and dose:
Cereals	For plant protection against stress-inducing factors or recovery from stresses 1–5 times throughout the growing season during	For spraying: 0.5–1 L/ha For watering: 0.3-0.5 L/100 L water
Oilseed		
Legumes and herbs		
Edible roots		
Tubers		
Vegetables		
Berries		
Stone fruit, fruit trees		

COMPATIBILITY

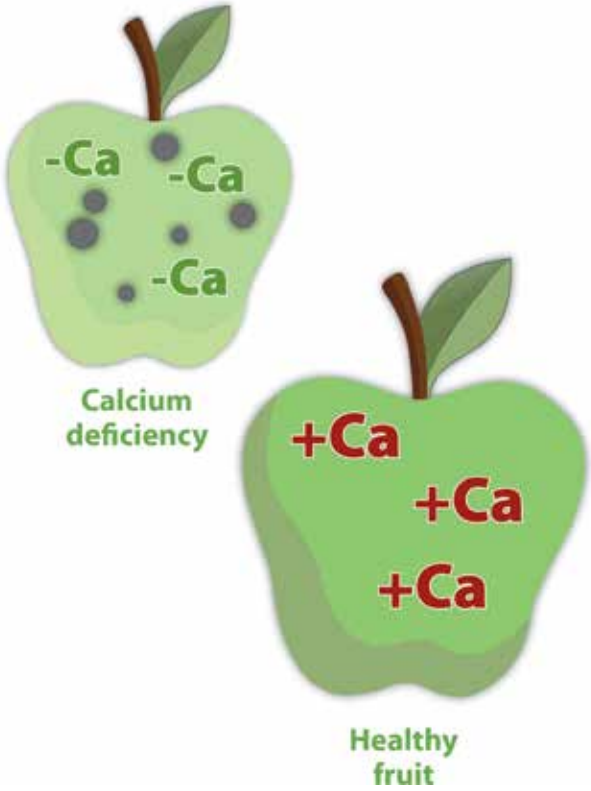
Can be used in mixtures with most fertilizers and pesticides. Do not use with products containing high levels of copper (Cu > 2%). Not recommended for mixing with herbicides. When mixing with other products, please note that these fertilizers have a pH of 4.5–5.5, so the pH of the solution must be measured, as the pH of the solution to be sprayed must be around 6.

IKAR® LIQUID FERTILIZERS

CORRECT

Modern fertilizer correctors designed to precisely address nutrient deficiencies during intensive growth – ensuring that **the plant does not lose a single percentage of its yield potential.**

IKAR Ca 200+B



CALCIUM AND BORON FERTILIZER

Containing calcium (Ca) chloride and boron (B), it is intended to correct or prevent calcium deficiency.

From +15% to +25% increases pollen viability

From -30% to -40% reduces rot and fruit cracking

Particularly suitable during flowering and fruit set; it is absorbed very quickly by foliar application.

CHARACTERISTICS

- Stimulates the development of roots and generative organs (flowers, fruit).
- Increases the mechanical strength of the tissues, protecting the fruit from: cracking, damage during storage and transport, and physiological disorders (e.g. apical rot).
- Strengthens and forms cell walls. Ensures a high-quality harvest and reduces the risk of disease and defects.
- Significantly improves the quality and quantity of the harvest. Improved fruit shape, firmness, sugar content and shelf life. Reduces the number of deformed or empty fruits on all flowering plants.
- It is quickly absorbed by plants, even when the soil is dry or the roots are weak.

COMPOSITION

	%	g/L
Calcium (Ca)	**10.8**	**145.0**
Calcium (CaO)	**15.0**	**200.0**
Boron (B)	**1.5**	**20.0**
***L*-Proline**	**0.39**	**5.0**
Dry matter	58.6	
Dry organic matter	12.5	
Organic carbon content	**7.3**	
pH (1:10 H_2O)	7.5 - 8.5	
Density 20°C, g/mL	1.3 - 1.4	
Form	Liquid	

RECOMMENDATION

Plants:	**Time:**		**Application and dose:**
Vegetables	I – BBCH 71–79	(fruit setting)	For spraying: 2–6 L/ha For watering: 1–3 L /100 L
Leafy vegetables	II – BBCH 81–89	(ripening)	
Stone fruit			
Fruit trees			

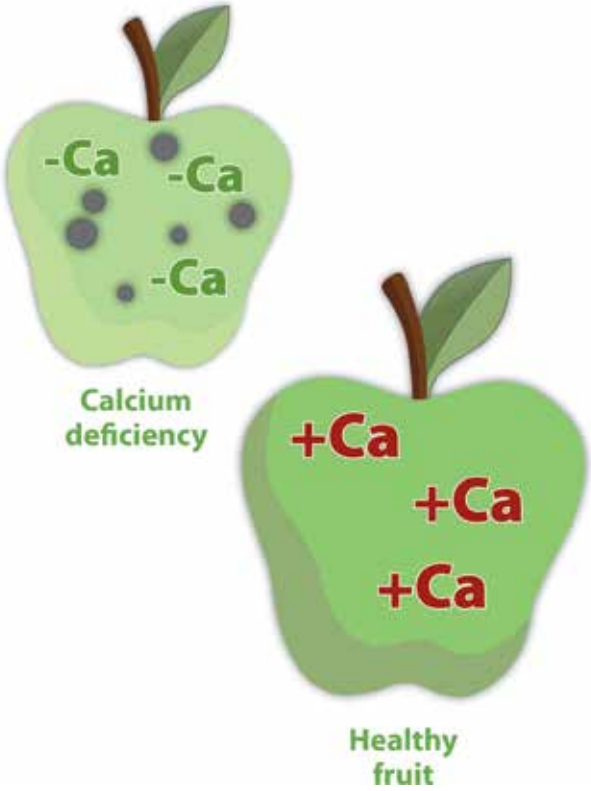
2–4 times, every 7–10 days

COMPATIBILITY

Can be used in mixtures with most fertilizers and pesticides. Do not use with products containing high levels of copper (Cu > 2%) and silicon (Si). When mixing with other products, please note that these fertilizers have a pH of 7.5–8.5, so the pH of the solution must be measured, as the pH of the solution to be sprayed must be around 6.

IKAR® LIQUID FERTILIZERS

IKAR Ca 225 Pro



CALCIUM LIGNOSULPHONATE FERTILIZER

Thanks to the calcium (Ca) lignosulphonate (LS) present in the composition, it is particularly rapidly absorbed by the roots during irrigation. For the treatment or prevention of calcium deficiency.

From -23% to -28% reduces fruit drop

From +30% to +40% increases fruit firmness

Particularly suitable for improving the quality and storage of fruit and vegetables.

CHARACTERISTICS

- Stimulates the development of roots and generative organs (flowers, fruit).
- Increases the mechanical strength of the tissues, protecting the fruit from: cracking, damage during storage and transport, and physiological disorders (e.g. apical rot).
- Strengthens and forms cell walls. Ensures a high-quality harvest and reduces the risk of disease and defects.
- Significantly improves the quality and quantity of the harvest. Improved fruit shape, firmness, sugar content and shelf life. Reduces the number of deformed or empty fruits on all flowering plants.
- It is quickly absorbed by plants, even when the soil is dry or the roots are weak.

COMPOSITION

	%	g/L
Calcium (Ca)	**10.7**	**160.8**
Calcium (CaO)	**15.0**	**225.0**
Dry matter	63.8	
Dry organic matter	32.8	
Organic carbon content	19.0	
pH (1:10 H_2O)	3.0 - 4.0	
Density 20°C, g/mL	1.4 - 1.5	
Form	Liquid	

RECOMMENDATION

Plants:	Time:		Application and dose:
Vegetables	I – BBCH 71–79	(fruit setting)	For spraying: 2–6 L/ha For watering: 1–3 L /100 L
Leafy vegetables	II – BBCH 81–89	(ripening)	
Stone fruit			
Fruit trees			

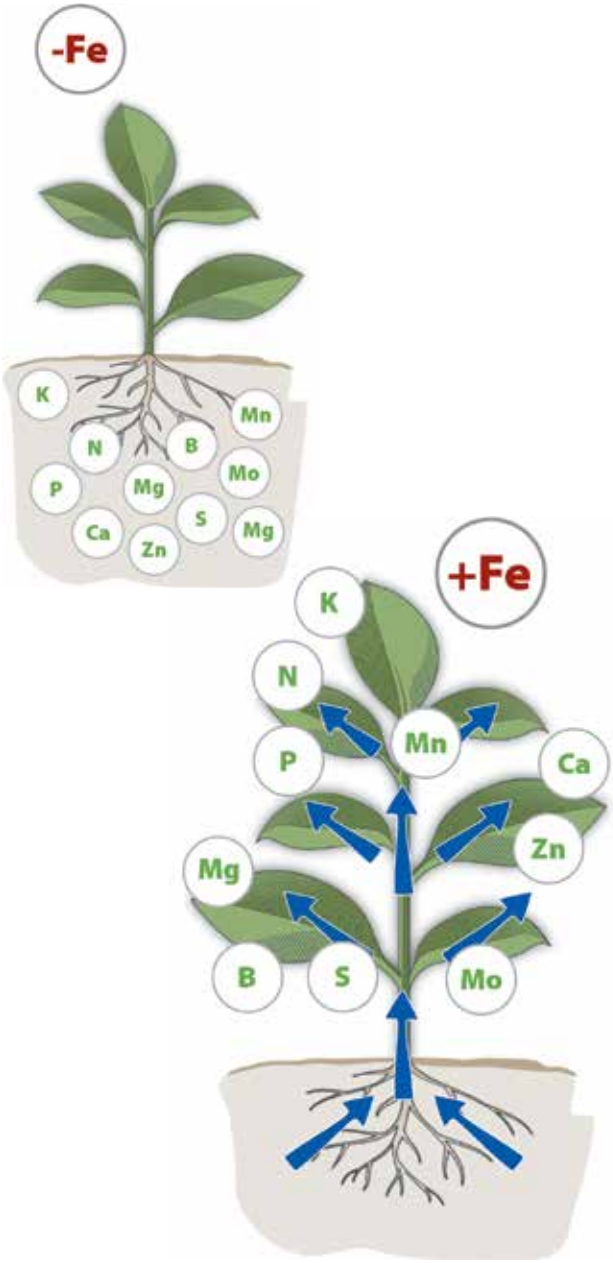
2–4 times, every 7–10 days

COMPATIBILITY

Can be used in mixtures with most fertilizers and pesticides. Do not use with products containing high levels of copper (Cu > 2%) and silicon (Si). When mixing with other products, please note that these fertilizers have a pH of 3.0–4.0, so the pH of the solution must be measured, as the pH of the solution to be sprayed must be around 6.

IKAR® LIQUID FERTILIZERS

IKAR Fe 75 DTPA



IRON FERTILIZER

Due to its chelated (DTPA) form, it is rapidly absorbed by plants. Intended for the treatment or prevention of iron (Fe) deficiency.

From +10% to +25% improves fruit quality (sugar, colour, size) via foliar spraying

From +10% to +30% activates photosynthesis

Particularly suitable for hydroponic plants.

CHARACTERISTICS

- Significantly reduces the likelihood of chlorosis.
- Improves protein synthesis in the early stages.
- Increases the accumulation of sugars.
- Increases enzyme activity and stress resistance.

COMPOSITION

	%	g/L
Iron (Fe DTPA)	**6.0**	**75.0**
Ammoniacal nitrogen ($N\text{-}NH_4$)	5.0	65.0
Dry matter	11.3	
Dry organic matter	7.8	
Organic carbon content	4.5	
C_{org}/N	**0.9**	
pH (1:10 H_2O)	7.0 - 8.0	
Density 20°C, g/mL	1.3 - 1.4	
Form	Liquid	

RECOMMENDATION

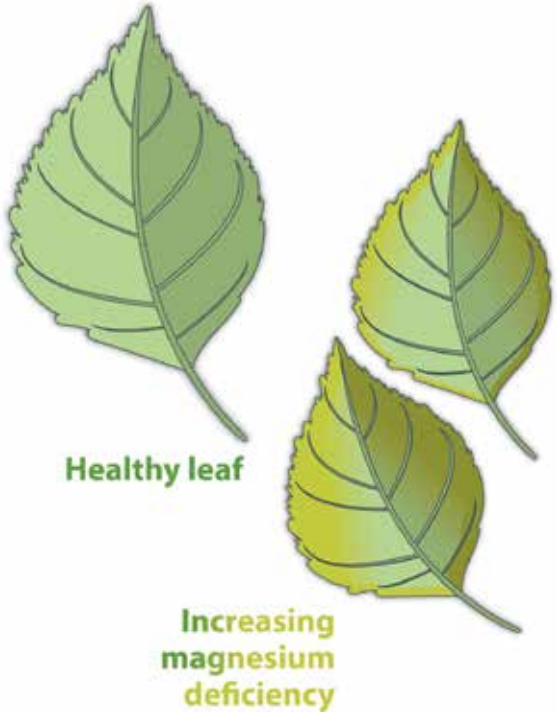
Plants:	Time:	Application and dose:
Cereals	Suitable for fertilization throughout the growing season when iron deficiency is present	For spraying: 0.1–0.5 L/ha For watering: 0.1–0.2 L/100 L
Oilseed crops		
Legumes and forage grasses		
Edible roots		
Tubers		
Vegetables		
Berries		
Stone fruit, fruit trees		

COMPATIBILITY

Can be used in mixtures with most fertilizers and pesticides. Do not use with products containing high levels of copper (Cu > 2%). When mixing with other products, please note that these fertilizers have a pH of 7.5–8.0, so the pH of the solution must be measured and adjusted to pH 6 with dedicated products.

IKAR® LIQUID FERTILIZERS

IKAR Mg 100 Pro



MAGNESIUM FERTILIZER

Intended for the treatment or prevention of magnesium (Mg) deficiency.

From +10% to +35% activates photosynthesis

From +10% to +30% improves quality – more starch and sugar in fruit, beautiful and high-quality fruit, vegetables and edible roots

Particularly useful for cereals, maize, oilseed crops and vegetables.

CHARACTERISTICS

- Directly determines leaf greenness and photosynthetic efficiency. Improves photosynthesis and increases chlorophyll content.
- Influences carbohydrate and protein synthesis by activating enzymes that synthesise proteins, fats and carbohydrates.
- Involved in the movement of sugars, phosphorus, iron and other elements to the fruit and roots. Improves colour brightness and uniformity in fruit and vegetables.
- It is particularly effective when magnesium is not absorbed through the soil.
- Strengthens the plant metabolism – increases resistance to drought, heat and pesticide stress.
- Suitable for use throughout the growing season and even during the height of the growing season when the plant is developing rapidly.

COMPOSITION

	%	g/L
Magnesium (Mg)	**4.5**	**60.0**
Magnesium (MgO)	**7.5**	**100.0**
Nitrogen (N)	5.0	70.0
Nitrate nitrogen ($N\text{-}NO_3$)	5.0	70.0
Dry matter	54.2	
Dry organic matter	40.4	
Organic carbon content	**23.4**	
C_{org}/N	**4.7**	
pH (1:10 H_2O)	3.5 - 4.5	
Density 20°C, g/mL	1.3 - 1.4	
Form	Liquid	

RECOMMENDATION

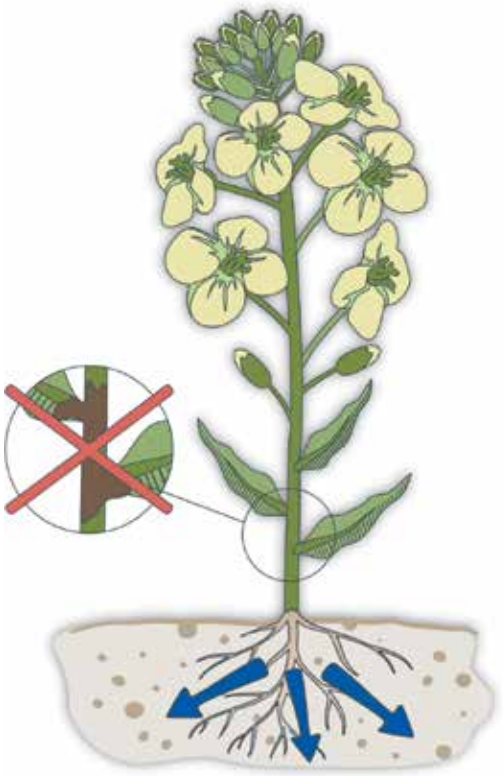
Plants:	Time:	Application and dose:
Cereals	Suitable for fertilization throughout the growing season when magnesium deficiency is present	For spraying: 0.5–1.0 L/ha For watering: 0.1–0.2 L/100 L
Oilseed crops		
Legumes and forage grasses		
Edible roots		
Tubers		
Vegetables		
Berries		
Stone fruit, fruit trees		

COMPATIBILITY

Can be used in mixtures with most fertilizers and pesticides. Do not use with products containing high levels of copper (Cu > 2%) and silicon (Si). When mixing with other products, please note that these fertilizers have a pH of 3.5–4.5, so the pH of the solution must be measured, as the pH of the solution to be sprayed must be around 6.

IKAR® LIQUID FERTILIZERS

IKAR B 150 / IKAR B 170



BORON FERTILIZER

It is particularly rapidly absorbed due to its boroethanolamine (BEA) form. Intended for the treatment or prevention of boron deficiency.

From +10% to +40% increases formation of productive crop structures

Particularly useful for oilseed crops, legumes, edible roots, tubers, vegetables, berries, stone fruit and fruit trees.

CHARACTERISTICS

- Strengthens the root system, promotes the formation of lateral roots, strengthens rooting.
- Stimulates flowering, fruit set and plant immune response. Increases the number of flowers and their fertility and reduces the dropping of flowers and fruit set.
- Improves the movement of sugars from leaves to roots, fruits and tubers.
- Determines the formation and stability of the cell walls of plant tissues, resulting in robustness.
- Significantly improves the quality and quantity of the harvest. Improved fruit shape, firmness, sugar content and shelf life (during storage). Reduces the number of deformed or empty fruits on all flowering plants.
- Helps the plant withstand stress – drought, heat, disease or pathogens.

IKAR B 150 COMPOSITION

	%	g/L
Boron (B)	**11.0**	**150.0**
Dry matter	69.7	
Organic matter	25.0	
Organic carbon content	**14.5**	
pH (1:10 H_2O)	8.0 - 9.0	
Density at 20°C, g/mL	1.3 - 1.4	
Form	Liquid	

IKAR B 170 COMPOSITION

	%	g/L
Boron (B)	**12.0**	**170.0**
Dry matter	76.1	
Organic matter	27.2	
Organic carbon content	**15.8**	
pH (1:10 H_2O)	8.0 - 9.0	
Density 20°C, g/mL	1.4 - 1.5	
Form	Liquid	

COMPATIBILITY

Can be used in mixtures with most fertilizers and pesticides. Do not use with products containing high levels of copper (Cu > 2%). When mixing with other products, please note that these fertilizers have a pH of 8.2–8.7, so the pH of the solution must be measured and adjusted to pH 6 with dedicated products.

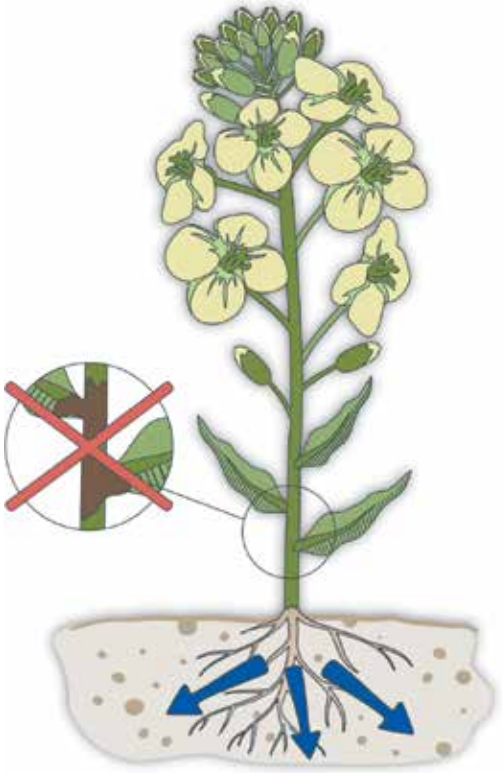
RECOMMENDATION

Plants:	Time:		Application and dose:
Cereals	BBCH 37–61	(from fully formed leaf and stem growth to start of budding and flowering)	For spraying: 0.5–1.5 L/ha For watering: 0.25-0.5 L/100 L water
Oilseed crops	I – BBCH 13–15	(3–5 leaves)	
	II – BBCH 14–16	(4–6 leaves)	
	III – BBCH 33–50	(branching, start of budding)	
	IV – BBCH 50–60	(budding, start of flowering)	
Legumes plants and grasses	I – BBCH 13–15	(3–5 leaves)	
	II – BBCH 50–59	(budding)	
Edible roots	I – BBCH 12–14	(2–4 leaves)	
	II – BBCH 16–18	(6–8 leaves)	
	III – BBCH 30–39	(inter-row covering)	
Tubers	I – BBCH 11–19	(leaf and stem growth)	
	II – BBCH 40–49	(tuber formation)	
	III – BBCH 50–59	(budding)	
Vegetables	I – BBCH 41–59	(edible root formation and growth and budding)	
Berries	II – BBCH 70–79	(berry/fruit setting)	
Stone fruit, fruit trees	III – BBCH 81–89	(fruiting/ripening)	

4–6 times, every 5–7 days

IKAR® LIQUID FERTILIZERS

IKAR B 150+Mo / IKAR B 170+Mo



BORON AND MOLYBDENUM FERTILIZER

It is particularly rapidly absorbed due to its boroethanolamine (BEA) form. Intended for the treatment or prevention of boron (B) and molybdenum (Mo) deficiency.

From +10% to +40% increases formation of productive crop structures

Particularly useful for oilseed crops, legumes, edible roots, tubers, vegetables, berries, stone fruit and fruit trees.

CHARACTERISTICS

- Strengthens the root system, promotes the formation of lateral roots, strengthens rooting.
- Stimulates flowering, fruit set and plant immune response. Increases the number of flowers and their fertility and reduces the dropping of flowers and fruit set.
- Improves the movement of sugars from leaves to roots, fruits and tubers.
- Determines the formation and stability of the cell walls of plant tissues, resulting in robustness.
- Significantly improves the quality and quantity of the harvest. Improved fruit shape, firmness, sugar content and shelf life (during storage). Reduces the number of deformed or empty fruits on all flowering plants.
- Helps the plant withstand stress – drought, heat, disease or pathogens.

IKAR B 150+Mo COMPOSITION

COMPOSITION	%	g/L
Boron (B)	**11.0**	**150.0**
Molybdenum (Mo)	**0.5**	**7.0**
Dry matter	69.9	
Organic matter	32.4	
Organic carbon content	**18.8**	
pH (1:10 H_2O)	8.0 - 9.0	
Density 20°C, g/mL	1.35 - 1.45	
Form	Liquid	

IKAR B 170+Mo COMPOSITION

COMPOSITION	%	g/L
Boron (B)	12.0	**170.0**
Molybdenum (Mo)	0.5	**7.0**
Dry matter	76.2	
Organic matter	35.2	
Organic carbon content	20.4	
pH (1:10 H_2O)	8.0 - 9.0	
Density 20°C, g/mL	1.4 - 1.5	
Form	Liquid	

COMPATIBILITY

Can be used in mixtures with most fertilizers and pesticides. Do not use with products containing high levels of copper (Cu > 2%). When mixing with other products, please note that these fertilizers have a pH of 8.2–8.7, so the pH of the solution must be measured and adjusted to pH 6 with dedicated products.

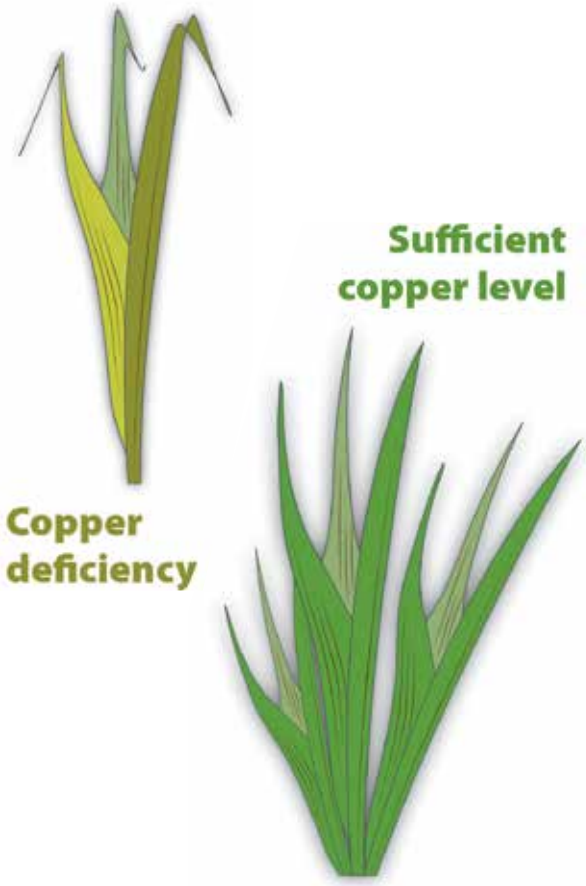
RECOMMENDATION

Plants:	Time:		Application and dose:
Cereals	BBCH 37–61	(from fully formed leaf and stem growth to start of budding and flowering)	For spraying: 0.5–1.5 L/ha For watering: 0.25-0.5 L/100 L water
Oilseed crops	I – BBCH 13–15	(3–5 leaves)	
	II – BBCH 14–16	(4–6 leaves)	
	III – BBCH 33–50	(branching, start of budding)	
	IV – BBCH 50–60	(budding, start of flowering)	
Legumes plants and grasses	I – BBCH 13–15	(3–5 leaves)	
	II – BBCH 50–59	(budding)	
Edible roots	I – BBCH 12–14	(2–4 leaves)	
	II – BBCH 16–18	(6–8 leaves)	
	III – BBCH 30–39	(inter-row covering)	
Tubers	I – BBCH 11–19	(leaf and stem growth)	
	II – BBCH 40–49	(tuber formation)	
	III – BBCH 50–59	(budding)	
Vegetables	I – BBCH 41–59	(edible roots formation and growth and budding)	
Berries	II – BBCH 70–79	(berry/fruit setting)	
Stone fruit, fruit trees	III – BBCH 81–89	(fruiting/ripening)	

4–6 times, every 5–7 days

IKAR® LIQUID FERTILIZERS

IKAR Cu 200



COPPER FERTILIZER

Intended for the treatment or prevention of copper (Cu) deficiency.

From +5% to +25% increases yield in cases of copper deficiency in the plant

Particularly suitable for cereals on light, sandy or peaty soils; suitable for maintaining pollen viability.

CHARACTERISTICS

- Promotes root development and regeneration – helps plants recover faster after winter or stress.
- Promotes healthy growth and pollen formation.
- Reduces risk of leaf curling and shedding of productive parts. Speeds up the start of plant growth after winter.
- Increases yield stability and quality.
- Increases stress and disease tolerance – improves the ability of plants to withstand drought, temperature and disease stress. Reduces the spread of disease in the early stages of development.

COMPOSITION

	%	g/L
Copper (Cu)	**14.0**	**200.0**
Nitrogen (N)	6.0	85.0
Nitrate nitrogen (N-NO_3)	6.0	85.0
Dry matter	28.9	
Dry organic matter	10.6	
Organic carbon content	**6.1**	
C_{org}/N	**1.0**	
pH (1:10 H_2O)	1.5 - 2.5	
Density 20°C, g/mL	1.4 - 1.5	
Form	Liquid	

RECOMMENDATION

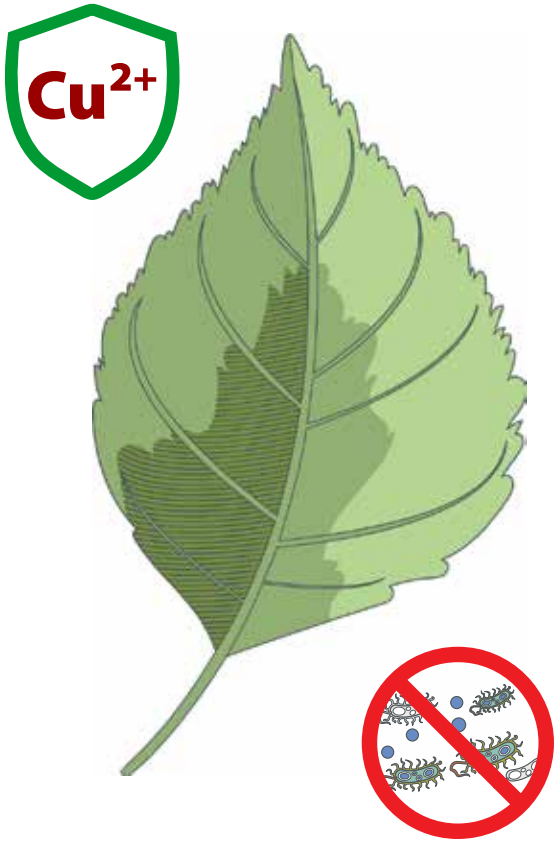
Plants:	Time:		Application and dose:
Cereals	I – BBCH 11–49	(start of vegetation)	For spraying: 0.2–0.5 L/ha For watering: 0.1-0.5 L/100 L water
Oilseed crops			
Root crops			
Tubers			
Berries	I – BBCH 11–39	(start of vegetation)	
	II – BBCH 81–97	(after harvesting)	

COMPATIBILITY

Most products do not mix with copper – such as organic, phosphoric, amino acid, humic acid and sulphur-based products. Not miscible with acidic substances at pH < 4. When mixing with other products, please note that these fertilizers have a pH of 2.5–4.0, so the pH of the solution must be measured, as the pH of the solution to be sprayed must be around 6.

IKAR® LIQUID FERTILIZERS

IKAR Cu 380



COPPER FERTILIZER

Intended for the treatment or prevention of copper (Cu) deficiency.

From -30% to -70% inhibits disease spread

Particularly useful for cereals on light, sandy or peaty soils.

CHARACTERISTICS

- Promotes root development and regeneration – helps plants recover faster after winter or stress.
- Promotes healthy growth and pollen formation.
- Speeds up the start of plant growth after winter.
- Increases yield stability and quality.
- Increases stress and disease tolerance – improves the ability of plants to withstand drought, temperature and disease stress. Reduces the spread of disease in the early stages of development.

COMPOSITION

	%	g/L
Copper (Cu)	**26.0**	**380.0**
Dry matter	45.7	
Organic matter	13.0	
Organic carbon content	**7.5**	
pH (1:10 H_2O)	7.5 - 8.5	
Density 20°C, g/mL	1.4 - 1.5	
Form	Suspension	

RECOMMENDATION

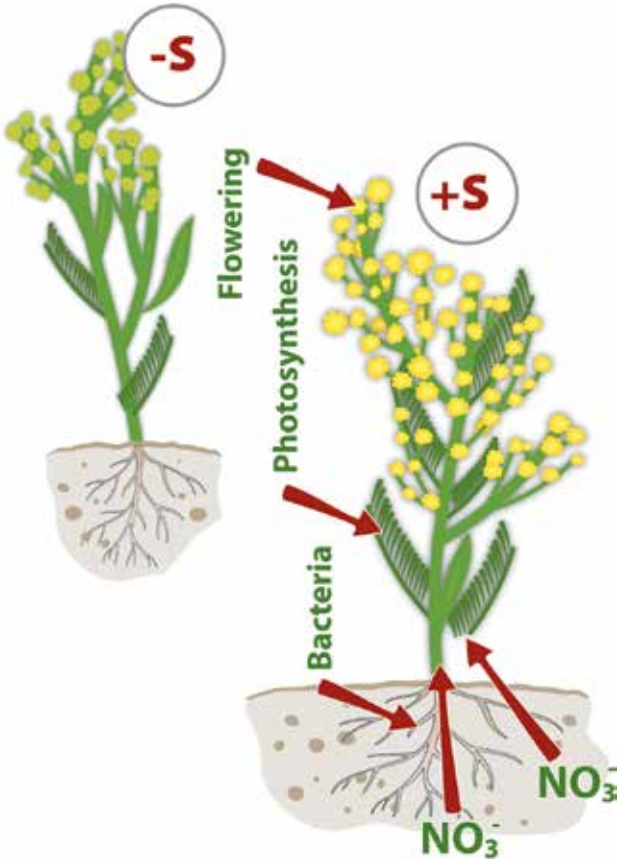
Plants:	Time:		Application and dose:
Cereals	I – BBCH 11–49	(start of vegetation)	For spraying: 0.2–0.5 L/ha For watering: 0.1-0.5 L/100 L water
Oilseed crops			
Root crops			
Tubers			
Berries	I – BBCH 11–39	(start of vegetation)	
	II – BBCH 81–97	(after harvesting)	

COMPATIBILITY

Most products do not mix with copper – such as organic, phosphoric, amino acid, humic acid and sulphur-based products. Not miscible with acidic substances at pH < 4. When mixing with other products, please note that these fertilizers have a pH of 7.5–8.5, so the pH of the solution must be measured, as the pH of the solution to be sprayed must be around 6.

IKAR® LIQUID FERTILIZERS

IKAR Elais



SULPHUR FERTILIZER

Thanks to its thiosulphate content, this fertilizer is effective in ensuring the long-term uptake of sulphur (S). Intended for the treatment or prevention of sulphur deficiency.

From +40% to +60% extends sulphur availability

From +15% to +25% increases nitrogen (N) uptake, when used in combination with nitrogen fertilizer

By +20% increases the protein content of plants, due to the role of sulphur in amino acid synthesis

Particularly suitable for oilseed crops.

CHARACTERISTICS

- Optimum nitrogen-sulphur ratio – ensures better microbiological activity in the soil.
- Designed to optimise nitrogen utilisation, enhance plant physiological processes and improve crop quality.
- Part of the sulphur is immediately available to plants (SO_4^{2-}), while the other part, thiosulphate, is con verted to sulphate over several days/weeks, reducing leaching (of sulphate ions and nitrate ions), making it suitable for intensive growth in wet conditions.
- Promotes growth and development. Improves protein, enzyme and nucleic acid synthesis.
- Enhances photosynthesis and respiration – accelerating growth and energy storage.

COMPOSITION

	%	g/L
Sulphur (S)	**22.0**	**290.0**
Sulphur (SO_3)	**55.0**	**730.0**
Nitrogen (N)	15.0	200.0
Ammonia nitrogen (N-NH_4)	10.0	135.0
Amide nitrogen (N-NH_2)	5.0	65.0
Molybdenum (Mo)	0.4	5.0
Dry matter	41.8	
Dry organic matter	41.3	
Organic carbon content	**24.0**	
C_{org}/N	**1.6**	
pH (1:10 H_2O)	7.0 - 8.0	
Density 20°C, g/mL	1.25 - 1.35	
Form	Liquid	

RECOMMENDATION

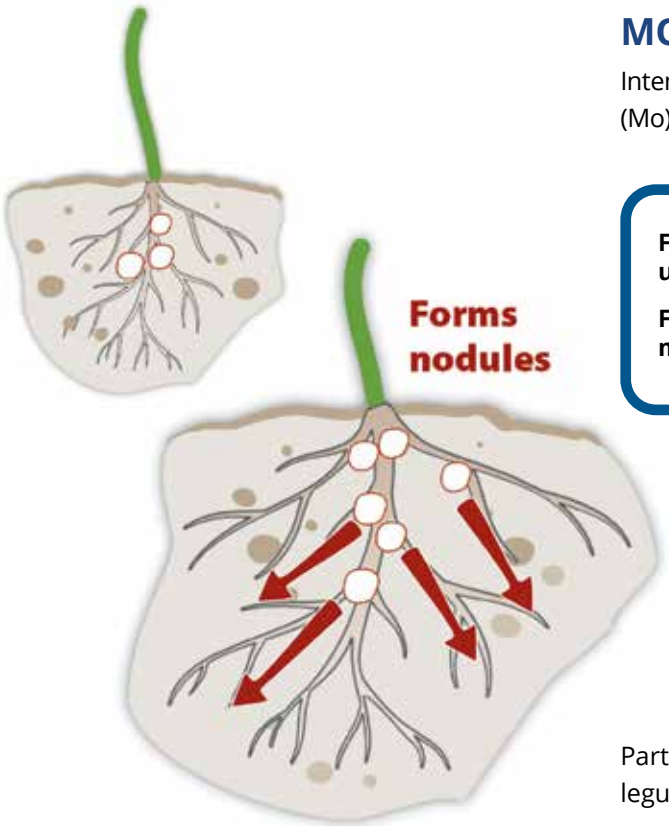
Plants:	Time:	Application and dose:
Cereals	Fertilize 1–4 times during intensive growth (BBCH 20–39)	For spraying: 2–5 L/ha When mixed with liquid nitrogen fertilizer: 10–30 L/ha 0.25–0.5 L/100 L For watering
Oilseed		
Legumes and forage grasses		
Edible roots		
Tubers		
Vegetables		
Berries		
Stone fruits, fruit trees		

COMPATIBILITY

Can be used in mixtures with most fertilizers and pesticides. Do not use with products containing high levels of copper (Cu > 2%). When mixing with other products, please note that these fertilizers have a pH of 7.0–8.0, so the pH of the solution must be measured and adjusted to pH 6 with dedicated products.

IKAR® LIQUID FERTILIZERS

IKAR Mo 300



MOLYBDENUM FERTILIZER

Intended for the treatment or prevention of molybdenum (Mo) deficiency.

From +15% to +30% more efficient nitrogen (N) uptake

From +10% to +20% increases yield in case of molybdenum deficiency in the plants

Particularly suitable for oilseed and legume crops.

CHARACTERISTICS

- Improves flowering and fruit formation.
- Involved in protein synthesis.
- Molybdenum is particularly important for nitrogen-fixing tuber bacteria and is essential for nitrogen uptake by plants, guaranteeing well-formed and established flowers.
- Effective where molybdenum deficiency is identified, often on acidic and light soils. Low temperatures and high rates of nitrogen fertilizer application contribute to molybdenum deficiency.

COMPOSITION

	%	g/L
Molybdenum (Mo)	**18.8**	**300.0**
Dry matter	69.6	
Dry organic matter	41.7	
Organic carbon content	**24.2**	
pH (1:10 H_2O)	3.5 - 4.5	
Density 20°C, g/mL	1.55 - 1.65	
Form	Liquid	

COMPATIBILITY

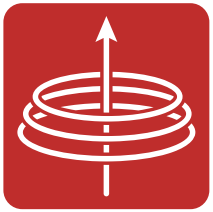
Can be used in mixtures with most fertilizers and pesticides. Do not use with products containing high levels of copper (Cu > 2%). When mixing with other products please note that the pH of these fertilizers is 4.2–4.7, so the pH of the solution must be measured because the pH of the spray solution must be around 6.

RECOMMENDATION

Plants:	Time:		Application and dose:
Cereals	BBCH 37–61	(from fully formed leaf and stem growth to start of budding and flowering)	For spraying: 0.05–0.1 L/ha For watering: 25-50 mL/100 L water
Oilseed crops	I – BBCH 13–15	(3–5 leaves)	
	II – BBCH 14–16	(4–6 leaves)	
	III – BBCH 33–50	(branching, start of budding)	
	IV – BBCH 50–60	(budding, start of flowering)	
Legumes plants and grasses	I – BBCH 13–15	(3–5 leaves)	
	II – BBCH 50–59	(budding)	
Edible roots	I – BBCH 12–14	(2–4 leaves)	
	II – BBCH 16–18	(6–8 leaves)	
	III – BBCH 30–39	(inter-row covering)	
Tubers	I – BBCH 11–19	(leaf and stem growth)	
	II – BBCH 40–49	(tuber formation)	
	III – BBCH 50–59	(budding)	
Vegetables	I – BBCH 41–59	(root formation and growth and budding)	
Berries	II – BBCH 70–79	(berry/fruit setting)	
Stone fruit, fruit trees	III – BBCH 81–89	(fruiting/ripening)	

3–5 times, every 7–10 days

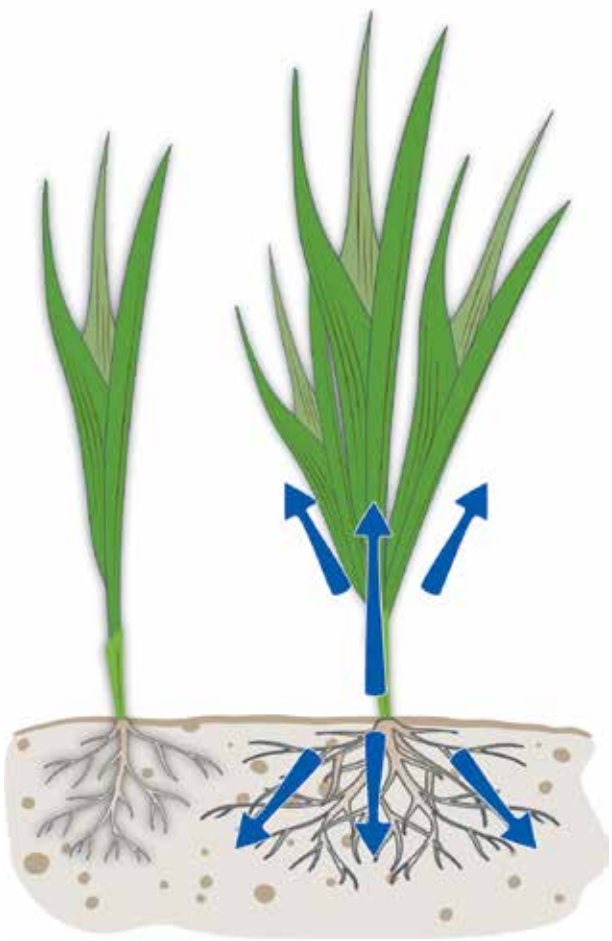
IKAR® LIQUID FERTILIZERS



INTENSE

The new generation of complex liquid fertilizer for intensive plant growth. They contain macronutrients supplemented with micronutrients, and the composition is adapted to the crop and the stage of development –
to give the plant everything it needs for maximum growth.

IKAR IN 1 / NPK 0-21-28+TE



NPK FERTILIZER

NPK fertilizer supplemented with *L*-amino acids and chelated trace elements. Intended for targeted feeding of the plant.

From +15% to +25% promotes root development and energy storage

From +20% to +30% increases antioxidant activity

From -15% to -20% reduces water loss

Particularly suitable for root development and energy storage in the plant.

CHARACTERISTICS

- Good absorption due to the nitrate form and the chelated form of the micronutrients.
- Regulates osmotic balance.
- Stimulates sugar production in the leaves and its transport to the roots.
- Improves production quality, fruit size, sugar content and commercial value.

COMPOSITION

	%	g/L
Phosphorus (P)	**6.5**	**91.5**
Phosphorus (P_2O_5)	**15.0**	**210.0**
Potassium (K)	**16.6**	**232.4**
Potassium (K_2O)	**20.0**	**280.0**
Boron (B)	0.2	2.5
Iron (Fe EDTA)	0.05	0.7
Manganese (Mn EDTA)	0.5	7.0
Molybdenum (Mo)	0.2	2.5
Zinc (Zn EDTA)	0.5	7.0
***L*-Proline**	**0.14**	**2.0**
Dry matter	48.4	
Dry organic matter	2.0	
Organic carbon content	**1.2**	
pH (1:10 H_2O)	8.0 - 9.0	
Density 20°C, g/mL	1.45 - 1.55	
Form	Liquid	

RECOMMENDATION

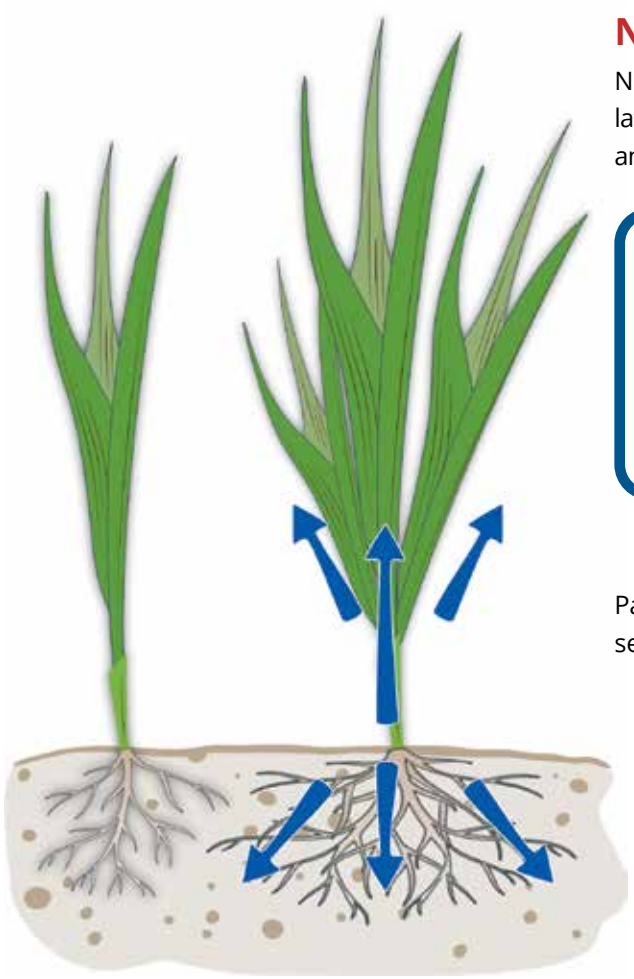
Plants:	Time:	Application and dose:
Cereals	Suitable for fertilization throughout the growing season	For spraying: 1.0–3.0 L/ha For watering: 0.5–1.5 L/100 L
Oilseed crops		
Legumes and forage grasses		
Edible roots		
Tubers		
Vegetables		
Berries		
Stone fruits, fruit trees		

COMPATIBILITY

Can be used in mixtures with most fertilizers and pesticides. Do not use with products containing high levels of copper (Cu > 2%) and calcium (Ca). When mixing with other products, please note that these fertilizers have a pH of 8.0–9.0, so the pH of the solution must be measured and adjusted to pH 6 with dedicated products.

IKAR® LIQUID FERTILIZERS

IKAR IN 2 / NPK 13-13-13+TE



NPK FERTILIZER

NPK fertilizer supplemented with *L*-amino acids and chelated trace elements. Designed to maintain the NPK balance in the plant.

From +20% to +30% improves plant mass formation

From +15% to +25% increases the use of other fertilizers

From +10% to +15% increases enzyme activity

Particularly suitable for use early in the growing season.

CHARACTERISTICS

- Maintains the NPK balance in the plant.
- Regulates osmotic balance.
- Improves production quality, fruit size, sugar content and commercial value.

COMPOSITION

	%	g/L
Nitrogen (N)	**10.0**	**130.0**
Amide nitrogen ($N\text{-}NH_2$)	**10.0**	**130.0**
Phosphorus (P)	**4.4**	**56.6**
Phosphorus (P_2O_5)	**10.0**	**130.0**
Potassium (K)	**8.3**	**107.9**
Potassium (K_2O)	**10.0**	**130.0**
Copper (Cu EDTA)	0.1	1.2
Manganese (Mn EDTA)	0.2	2.5
Zinc (Zn EDTA)	0.2	2.5
Boron (B)	0.01	0.13
Iron (Fe EDTA)	0.1	1.3
Molybdenum (Mo)	0.01	0.13
L-Proline	0.17	2.0
Dry matter	31.6	
Dry organic matter	8.8	
Organic carbon content	**5.1**	
C_{org}/N	**0.5**	
pH (1:10 H_2O)	6.5 - 7.5	
Density 20°C, g/mL	1.25 - 1.35	
Form	Liquid	

RECOMMENDATION

Plants:	Time:	Application and dose:
Cereals	Suitable for fertilization throughout the growing season	For spraying: 1.0–3.0 L/ha For watering: 0.5–1.5 L/100 L
Oilseed crops		
Legumes and forage grasses		
Edible roots		
Tubers		
Vegetables		
Berries		
Stone fruits, fruit trees		

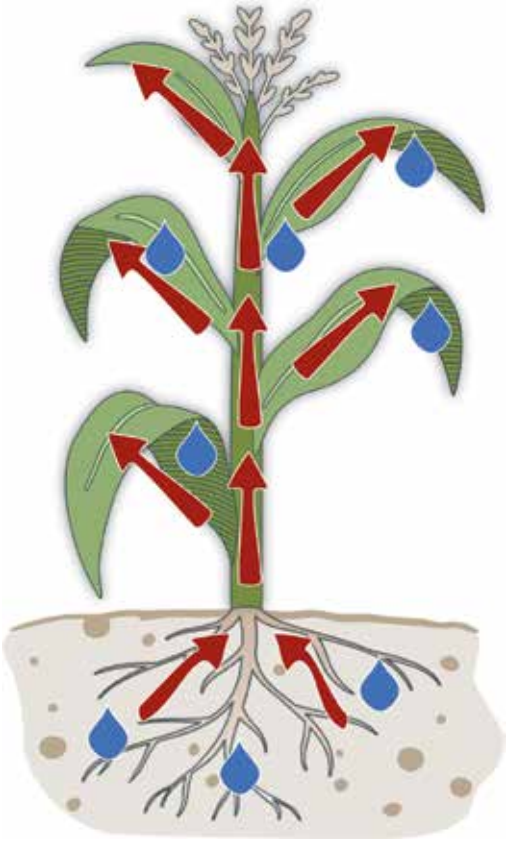
COMPATIBILITY

Can be used in mixtures with most fertilizers and pesticides. Do not use with products containing high levels of copper (Cu > 2%). When mixing with other products, please note that these fertilizers have a pH of 6.5–7.5, so the pH of the solution must be measured and adjusted to pH 6 with dedicated products.

IKAR® LIQUID FERTILIZERS

IKAR IN 3 / NPK 12-11-30+TE

ProLong effect



NPK FERTILIZER

NPK fertilizer supplemented with *L*-amino acids and chelated trace elements. Intended to maintain potassium (K) balance in the plant.

From +10% to +20% improves absorption of other nutrients

From +25% to +35% increases fruit, grain and root formation

Up to -30% reduces the risk of crop failure

Particularly suitable for use to maintain potassium balance in the plant.

CHARACTERISTICS

- Regulates osmotic balance and strengthens cells.
- Increases the use of other fertilizers, as phosphorus (P) and potassium enhance the plant physiology.
- Stimulates flowering and fruit formation.
- Increases seed weight and quality.

COMPOSITION

	%	g/L
Nitrogen (N)	**8.9**	**125.0**
Amide nitrogen (N-NH_2)	**8.9**	**125.0**
Phosphorus (P)	**3.5**	**47.9**
Phosphorus (P_2O_5)	**8.0**	**110.0**
Potassium (K)	**17.8**	**248.4**
Potassium (K_2O)	**21.5**	**300.0**
Iron (Fe EDTA)	0.06	0.85
Manganese (Mn EDTA)	0.04	0.5
Molybdenum (Mo)	0.05	0.7
Zinc (Zn EDTA)	0.03	0.4
L-Proline	0.15	2.0
Dry matter	51.8	
Dry organic matter	14.7	
Organic carbon content	**8.5**	
C_{org}/N	**1.0**	
pH (1:10 H_2O)	11.5 - 12.5	
Density 20°C, g/mL	1.4 - 1.5	
Form	Liquid	

RECOMMENDATION

Plants:	Time:	Application and dose:
Cereals	Suitable for fertilization throughout the growing period, in particular from the beginning of germination to mid-ripening.	For spraying: 1.0–3.0 L/ha For watering: 0.5–1.5 L/100 L
Oilseed crops		
Legumes and forage grasses		
Edible roots		
Tubers		
Vegetables		
Berries	It is suitable for fertilization throughout the growing period, in particular from the beginning of germination to mid-ripening. 3–5 times, every 7–10 days	
Stone fruits, fruit trees		

COMPATIBILITY

Can be used in mixtures with most fertilizers and pesticides. Do not use with products containing high levels of copper (Cu > 2%) and calcium (Ca). When mixing with other products, please note that these fertilizers have a pH of 11.5–12.5, so the pH of the solution must be measured and adjusted to pH 6 with dedicated products.

IKAR® LIQUID FERTILIZERS

IKAR IN 4 / NPK 0-45-9+TE

PK FERTILIZER

PK fertilizer supplemented with *L*-amino acids and micro-elements. Intended to maintain phosphorus (P) balance in the plant.

From +25% to +40% improves root development and new shoot formation

From +10% to +20% increases the absorption of other elements

From +10% to +20% increases antioxidant activity

Especially suitable for overwintering plants when phosphorus is not yet available in the soil.

CHARACTERISTICS

- Ensures phosphorus efficiency when phosphorus uptake is difficult in the soil, also effective at 5–10°C.
- Increases root area and volume.
- Improves energy metabolism in the plant.

COMPOSITION

	%	g/L
Phosphorus (P)	**13.5**	**196.1**
Phosphorus (P_2O_5)	**31.0**	**450.0**
Potassium (K)	**5.4**	**78.0**
Potassium (K_2O)	**6.5**	**94.0**
Copper (Cu)	1.2	17.0
Iron (Fe)	0.3	4.3
Manganese (Mn)	1.5	19.0
Zinc (Zn)	1.0	14.5
***L*-Proline**	**0.15**	**2.0**
Dry matter	51.5	
Dry organic matter	10.7	
Organic carbon content	**6.2**	
pH (1:10 H_2O)	1.5 - 2.5	
Density 20°C, g/mL	1.4 - 1.5	
Form	Liquid	

RECOMMENDATION

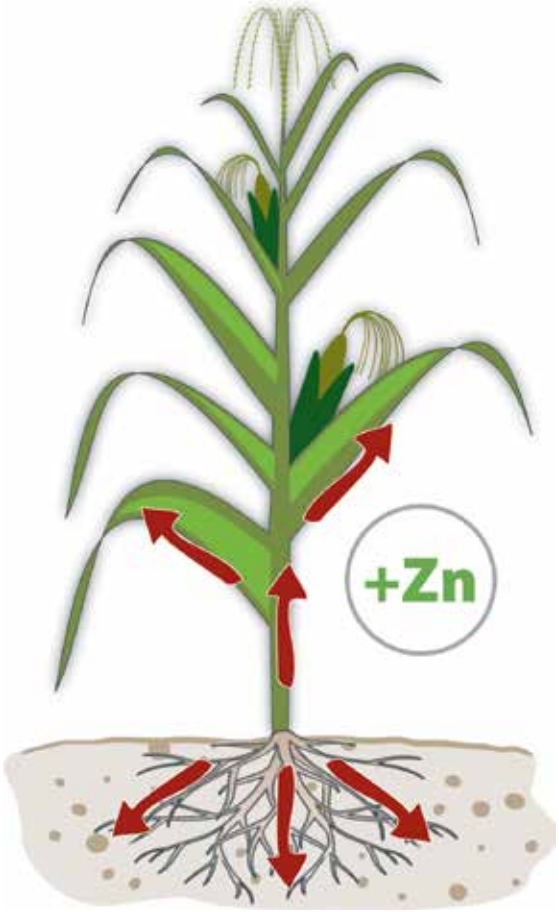
Plants:	Time:		Application and dose:
Cereals	I – BBCH 11–40 II – BBCH 80–89	(start of vegetation) (end of vegetation)	For spraying: 1.0–3.0 L/ha For watering: 0.5–1.5 L/100 L
Oilseed crops			
Legumes and forage grasses			
Edible roots			
Tubers			
Vegetables			
Berries			
Stone fruits, fruit trees			

COMPATIBILITY

Can be used in mixtures with most fertilizers and pesticides. Do not use with products containing high levels of copper (Cu > 2%). When mixing with other products, please note that these fertilizers have a pH of 1.5–2.5, so the pH of the solution must be measured, as the pH of the solution to be sprayed must be around 6.

IKAR® LIQUID FERTILIZERS

IKAR IN 5 / NPK 3-30-0+Zn



NP FERTILIZER

NP fertilizer supplemented with *L*-amino acids and zinc (Zn). Intended to maintain phosphorus (P) balance in the plant.

From +25% to +40% improves root development and new shoot formation

From +10% to +20% increases the absorption of other elements

From +10% to +20% increases antioxidant activity

Especially suitable for maize.

CHARACTERISTICS

- Ensures phosphorus efficiency when phosphorus uptake is difficult in the soil, also effective at 5–10°C.
- Increases root area and volume.
- Improves energy metabolism in the plant.

COMPOSITION

	%	g/L
Nitrogen (N)	**2.25**	**30.0**
Amide nitrogen (N-NH_2)	**2.25**	**30.0**
Phosphorus (P)	**9.8**	**130.7**
Phosphorus (P_2O_5)	**22.5**	**300.0**
Zinc (Zn)	7.4	100.0
***L*-Proline**	**0.17**	**2.0**
Dry matter	39.4	
Dry organic matter	7.2	
Organic carbon content	**4.2**	
C_{org}/N	**1.9**	
pH (1:10 H_2O)	1.5 - 2.5	
Density 20°C, g/mL	1.3 - 1.4	
Form	Liquid	

RECOMMENDATION

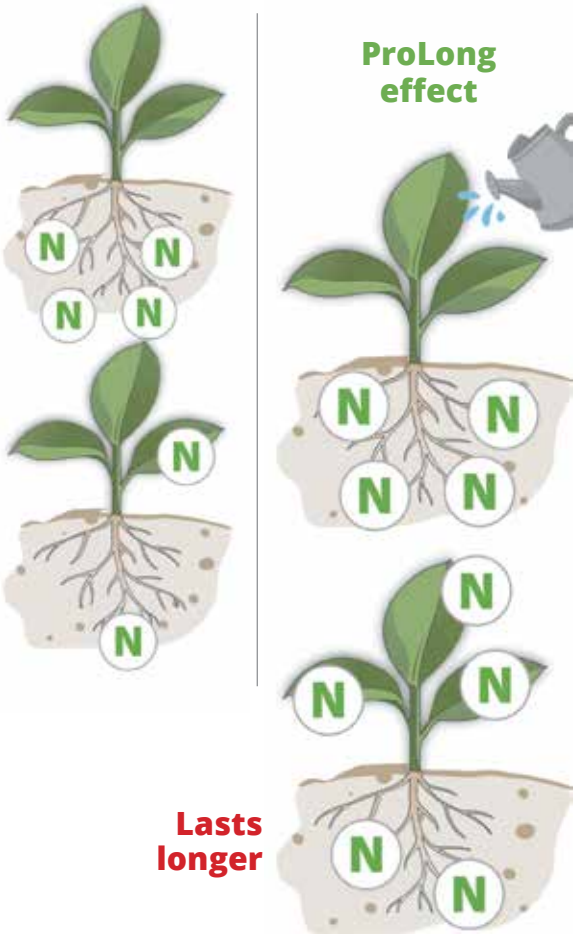
Plants:	Time:		Application and dose:
Cereals	I – BBCH 11–40 II – BBCH 80–89	(start of vegetation) (end of vegetation)	For spraying: 1.0–3.0 L/ha For watering: 0.5–1.5 L/100 L
Oilseed crops			
Legumes and forage grasses			
Edible roots			
Tubers			
Vegetables			
Berries			
Stone fruits, fruit trees			

COMPATIBILITY

Can be used in mixtures with most fertilizers and pesticides. Do not use with products containing high levels of copper (Cu > 2%). When mixing with other products, please note that these fertilizers have a pH of 1.5–2.5, so the pH of the solution must be measured, as the pH of the solution to be sprayed must be around 6.

IKAR® LIQUID FERTILIZERS

IKAR IN 6 / N32+TE ProLong



EXTENDED NITROGEN ACTION FERTILIZER

The innovative ProLong technology, which slows down the decomposition of nitrogen (N) in the soil, thus reducing losses and providing nitrogen to plants for longer. The micronutrient kit supplements nutrients. Intended for use during critical growth periods.

Up to +65% prolongs the action of nitrogen

From +10% to +20% activates nitrogen metabolism

Particularly suitable for plants growing in hot climates, where a long-lasting and even supply of nitrogen is needed.

CHARACTERISTICS

- The nitrogen present is slowly absorbed and does not cause scorching on the plant leaves.
- Acts as a long-term nitrogen source on the leaf surface, from which the plant gradually absorbs nitrogen.
- Slow-acting nitrogen – reduces nitrogen losses.
- Gradually stimulates chlorophyll synthesis, increasing foliage greenness.

COMPOSITION

	%	g/L
Nitrogen (N)	**26.0**	**315.0**
Methylene urea nitrogen (N-UF)	**15.3**	**185.0**
Amide nitrogen (N-NH_2)	**10.7**	**130.0**
Boron (B)	0.1	1.2
Iron (Fe EDTA)	0.1	1.2
Manganese (Mn EDTA)	0.07	0.8
Zinc (Zn EDTA)	0.07	0.8
Dry matter	62.1	
Dry organic matter	61.1	
Organic carbon content	**35.4**	
C_{org}/N	**1.4**	
pH (1:10 H_2O)	8.5 - 9.5	
Density 20°C, g/mL	1.2 - 1.3	
Form	Liquid	

COMPATIBILITY

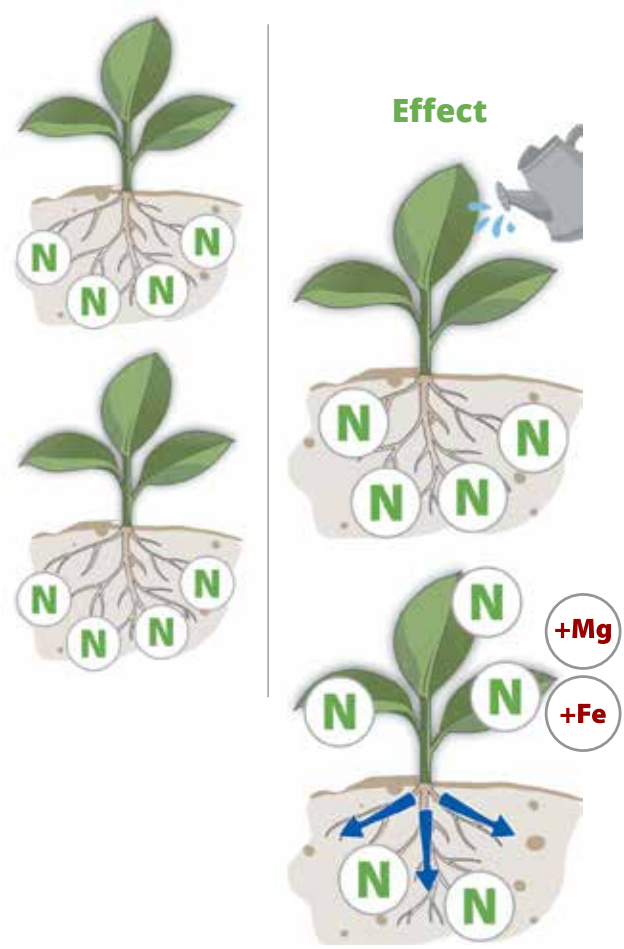
Can be used in mixtures with most fertilizers and pesticides. Do not use with products containing high levels of copper (Cu > 2%). When mixing with other products, please note that these fertilizers have a pH of 9.0–11.0, so the pH of the solution must be measured and adjusted to pH 6 with dedicated products.

RECOMMENDATION

Plants:	Time:		Application and dose:
Cereals	II – BBCH 20–30	(tillering stage)	For spraying: 5–20 L/ha
Oilseed crops	II – BBCH 32–37	(start of stem elongation)	
	III – BBCH 47–59	(flag leaf)	
	IV – BBCH 60–69	(ear emergence stage)	
Legumes plants and grasses	I – BBCH 14–30	(crown formation stage	
	II – BBCH 35–45	(stem formation stage)	
	III – BBCH 50–60	(budding stage)	
Edible roots	I – BBCH 11–15	(start of vegetation)	
	II – BBCH 20–25	(foliage formation)	
Tubers	Start from the 2–3-leaf stage until ear emergence, with a 7–10-day interval		
Vegetables	I – BBCH 14–18	(4–8 leave stage)	
	II – BBCH 20–24	(10–12 leave stage)	
	III – BBCH 31–39	(before furrow covering)	
Berries	During intensive growth, repeat with an interval of 10–14 days.		
Stone fruit, fruit trees			

IKAR® LIQUID FERTILIZERS

IKAR IN 7 / N39+TE



NITROGEN ACTION FERTILIZER

Nitrogen (N) fertilizer supplemented with magnesium (Mg), iron (Fe) and molybdenum (Mo). Intended to increase nitrogen availability to the plant.

From +30% to +50% faster nitrogen absorption

From +10% to +20% higher photosynthetic index

From +5% to +15% improved leaf and inflorescence development

Particularly suitable for plants growing in hot climates, where a long-lasting and even supply of nitrogen is needed.

CHARACTERISTICS

- Wide range of usage time – from BBCH 21 to 69.
- Improves yield and quality by increasing protein and gluten content.
- Preserves yield potential – effective at critical stages of development.

COMPOSITION

	%	g/L
Nitrogen (N)	**30.0**	**390.0**
Nitrate nitrogen ($N\text{-}NO_3$)	**7.5**	**97.5**
Ammoniacal nitrogen ($N\text{-}NH_4$)	**7.5**	**97.5**
Amide nitrogen ($N\text{-}NH_2$)	**15.0**	**195.0**
Magnesium (Mg)	0.2	3.0
Magnesium (MgO)	0.4	5.0
Iron (Fe EDTA)	0.02	0.25
Molybdenum (Mo)	0.01	0.13
Dry matter	77.5	
Dry organic matter	76.6	
Organic carbon content	**44.4**	
C_{org}/N	**1.5**	
pH (1:10 H_2O)	6.0 - 7.0	
Density 20°C, g/mL	1.25 - 1.35	
Form	Liquid	

COMPATIBILITY

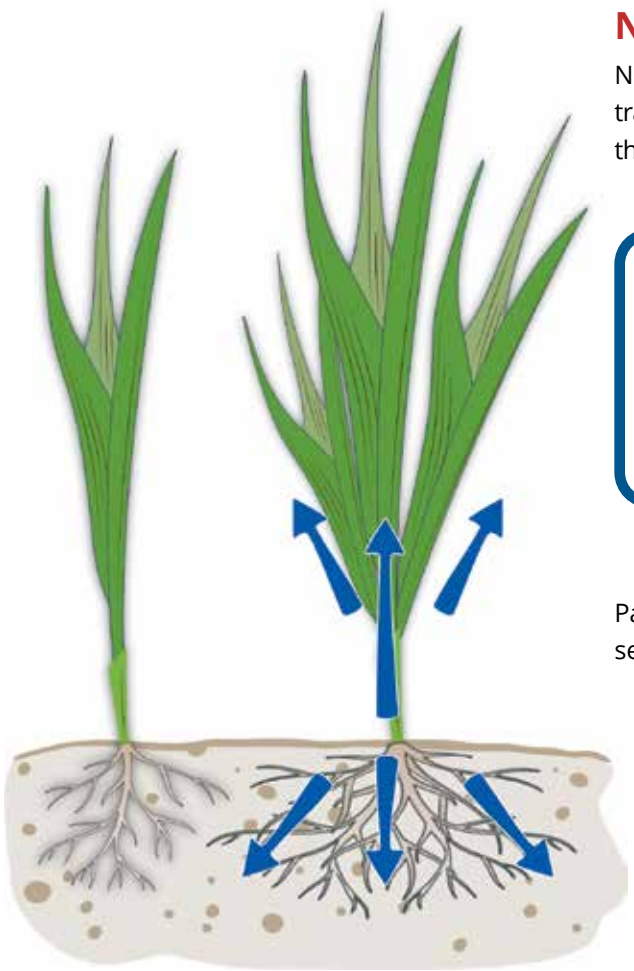
IKAR IN7 /N39 + TE can be used in mixtures with a wide range of fertilizers and pesticides. Do not use with products containing high levels of copper (Cu > 2%). When mixing with other products, please note that these fertilizers have a pH of 6.0–7.0, so the pH of the solution must be measured and adjusted to pH 6 with dedicated products. Before use, it is recommended to make a small amount of the mixture to check for sediment formation, then spray it on a small area and observe whether it has a phytotoxic effect on plants. Storage of the solution at -10°C and below may activate the crystallisation process; do not use metal containers for storage and transport due to possible corrosive effects.

RECOMMENDATION

Plants:	Time:		Application and dose:
Cereals	II – BBCH 20–30	(tillering stage)	For spraying: 5–20 L/ha
Oilseed crops	II – BBCH 32–37	(start of stem elongation)	
	III – BBCH 47–59	(flag leaf)	
	IV – BBCH 60–69	(ear emergence stage)	
Legumes plants and grasses	I – BBCH 14–30	(crown formation stage	
	II – BBCH 35–45	(stem formation stage)	
	III – BBCH 50–60	(budding stage)	
Edible roots	I – BBCH 11–15	(start of vegetation)	
	II – BBCH 20–25	(foliage formation)	
Tubers	Start from the 2–3-leaf stage until ear emergence, with a 7–10-day interval		
Vegetables	I – BBCH 14–18	(4–8 leave stage)	
	II – BBCH 20–24	(10–12 leave stage)	
	III – BBCH 31–39	(before furrow covering)	
Berries	During intensive growth, repeat with an interval of 10–14 days.		
Stone fruit, fruit trees			

IKAR® LIQUID FERTILIZERS

IKAR IN 8 / NPK 18-6-6+TE



NPK FERTILIZER

NPK fertilizer supplemented with seaweed and chelated trace elements. Designed to maintain the NPK balance in the plant.

From +20% to +30% improves plant mass formation

From +15% to +50% increases the use of other fertilizers

From +10% to +15% increases enzyme activity

Particularly suitable for use early in the growing season.

CHARACTERISTICS

- Maintains NPK balance in the plant
- Regulates nitrogen balance.
- Improves production quality, fruit size, sugar content and commercial value.

COMPOSITION

	%	g/L
Nitrogen (N)	**15.0**	**180.0**
Amide nitrogen (N-NH_2)	**15.0**	**180.0**
Phosphorus (P)	**2.18**	**27.0**
Phosphorus (P_2O_5)	**5.0**	**60.0**
Potassium (K)	**4.17**	**51.7**
Potassium (K_2O)	**5.0**	**60.0**
Copper (Cu EDTA)	0.02	0.26
Iron (Fe EDTA)	0.5	6.0
Manganese (Mn EDTA)	0.05	0.6
Molybdenum (Mo)	0.01	0.06
Zinc (Zn EDTA)	0.05	0.6
Seaweed extract	2.0	26.0
Dry matter	48.3	
Dry organic matter	35.3	
Organic carbon content	**20.5**	
C_{org}/N	**1.4**	
pH (1:10 H_2O)	6.5 - 7.5	
Density 20°C, g/mL	1.2 - 1.3	
Form	Liquid	

RECOMMENDATION

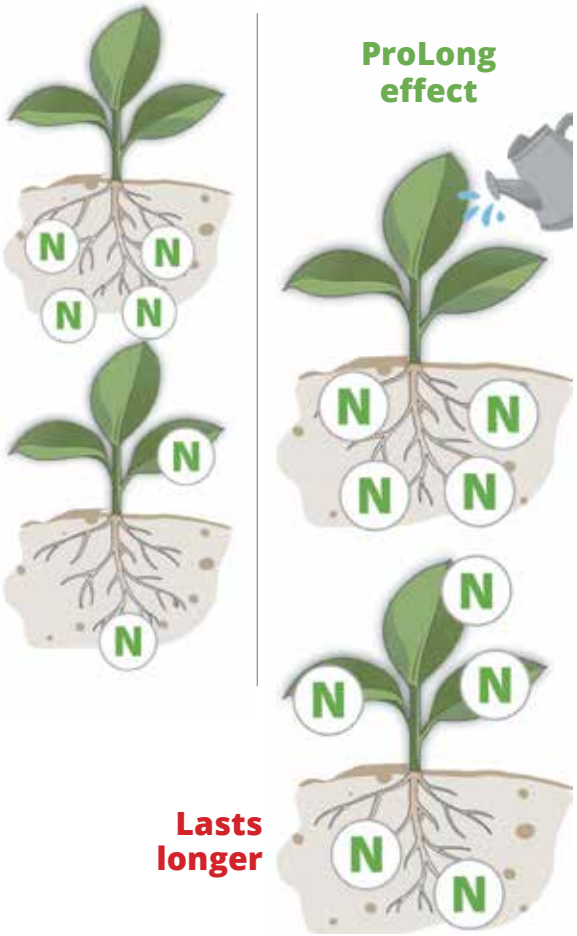
Plants:	Time:	Application and dose:
Cereals	Suitable for fertilization throughout the growing season	For spraying: 1.0–3.0 L/ha For watering: 0.5–1.5 L/100 L
Oilseed crops		
Legumes and forage grasses		
Edible roots		
Tubers		
Vegetables		
Berries		
Stone fruits, fruit trees		

COMPATIBILITY

Can be used in mixtures with most fertilizers and pesticides. Do not use with products containing high levels of copper (Cu > 2%). When mixing with other products, please note that these fertilizers have a pH of 6.5–7.5, so the pH of the solution must be measured and adjusted to pH 6 with dedicated products.

IKAR® LIQUID FERTILIZERS

IKAR IN 9 / N29 ProLong



EXTENDED-RELEASE NITROGEN FERTILIZER

Extended-release nitrogen (N) fertilizer supplemented with magnesium (Mg) and sulphur (S). Designed to extend the availability of nitrogen to the plant.

Up to +65% prolongs the action of nitrogen

From +10% to +20% activates nitrogen metabolism

It is particularly suitable for longer growing crops and on sandy soils, where even nitrogen nutrition through foliar spraying is important.

CHARACTERISTICS

- The nitrogen present is slowly absorbed and does not cause scorching on the plant leaves.
- Acts as a long-term nitrogen source on the leaf surface, from which nitrogen is gradually absorbed by the plant.
- Slow-acting nitrogen – reduces nitrogen losses.
- Gradually stimulates chlorophyll synthesis, increasing foliage greenness.

COMPOSITION

	%	g/L
Nitrogen (N)	**23.1**	**286.0**
Amide nitrogen (N-NH_2)	**15.4**	**190.7**
Methylene urea nitrogen (N-UF)	**7.7**	**95.5**
Magnesium (Mg)	2.1	26.0
Magnesium (MgO)	3.5	43.3
Sulphur (S)	2.9	35.9
Sulphur (SO_3)	7.3	90.1
Dry matter	73.0	
Organic matter	60.0	
Organic carbon content	**34.8**	
C_{org}/N	**1.5**	
pH (1:10 H_2O)	9.0 - 10.0	
Density 20°C, g/mL	1.25 - 1.35	
Form	Liquid	

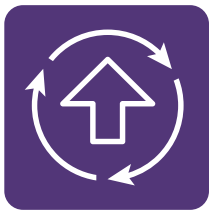
COMPATIBILITY

Can be used in mixtures with most fertilizers and pesticides. Do not use with products containing high levels of copper (Cu > 2%). When mixing with other products, please note that these fertilizers have a pH of 9.0–10.0, so the pH of the solution must be measured and adjusted to pH 6 with dedicated products.

RECOMMENDATION

Plants:	Time:		Application and dose:
Cereals	II – BBCH 20–30	(tillering stage)	For spraying: 5–20 L/ha
Oilseed crops	II – BBCH 32–37	(start of stem elongation)	
	III – BBCH 47–59	(flag leaf)	
	IV – BBCH 60–69	(ear emergence stage)	
Legumes plants and grasses	I – BBCH 14–30	(crown formation stage	
	II – BBCH 35–45	(stem formation stage)	
	III – BBCH 50–60	(budding stage)	
Edible roots	I – BBCH 11–15	(start of vegetation)	
	II – BBCH 20–25	(foliage formation)	
Tubers	Start from the 2–3-leaf stage until ear emergence, with a 7–10-day interval		
Vegetables	I – BBCH 14–18	(4–8 leave stage)	
	II – BBCH 20–24	(10–12 leave stage)	
	III – BBCH 31–39	(before furrow covering)	
Berries	During intensive growth, repeat with an interval of 10–14 days.		
Stone fruit, fruit trees			

IKAR® LIQUID FERTILIZERS



ASSIST

Substances that modify the physical properties of the fertilizer – such as dispersion, adhesion, penetration, evaporation, and pH – **help improve the fertilizer's efficiency and ensure more precise delivery to the plant.**

IKAR Korekt

4.0 4.5 5.0

5.5 6.0 6.5

7.0 7.5 8.0

pH CORRECTOR

For adjusting the pH of water when preparing a solution for the application of fertilizers or pesticides. Most spray pesticides and some fertilizers have a pH > 7, which can lead to sedimentation and poor absorption of the active ingredients, requiring pH adjustment.

From +5% to +15% increases the availability of microelements in the mixture

From -10% to -20% reduces the deposition of elements in drip system piping

From +10% to +30% reduces pH fluctuations in irrigation systems

Particularly suitable for plant root protection and for improving the mixing of fertilizers and the efficiency of solutions.

CHARACTERISTICS

- Effectively regulates the pH of the solution, reducing the negative effects of alkaline water.
- Improves surface coverage of the sprayed plant.
- Improves nutrient absorption.
- Reduces pesticide or fertilizer losses.

COMPOSITION

	%	g/L
Tricarboxylic acid	**50.0**	**600.0**
Dry matter	33.9	
Dry organic matter	9.9	
Organic carbon content	**5.7**	
pH (1:10 H_2O)	1.0 - 2.0	
Density 20°C, g/mL	1.15 - 1.25	
Form	Liquid	

QUANTITIES REQUIRED FOR WATER ACIDIFICATION

1 L H_2O/pH	9.5	9.0	8.5	8.0	7.5
0.5 mL	7.0	6.5	6.0	6.0	6.0
1.0 mL	6.0	5.5	5.0	4.5	4.5

RECOMMENDATION

Depending on the initial pH of the water used for spraying, different doses should be used, on average: 25-75 mL/100 L of water IKAR Korekt contains an indicator substance that changes the colour of the water depending on its pH, (see colour palette):

COMPATIBILITY

Can be used in mixtures with most fertilizers and pesticides. Do not use with products containing high levels of copper (Cu > 2%). When mixing with other products, please note that these fertilizers have a pH of 9.0–10.0, so the pH of the solution must be measured and adjusted to pH 6 with dedicated products.

IKAR® LIQUID FERTILIZERS

IKAR Perfect pH

4.0 4.5 5.0

5.5 6.0 6.5

7.0 7.5 8.0

pH CORRECTOR

Intended for adjusting the pH of water in solutions used to apply fertilizers or pesticides. Most spray pesticides and some fertilizers have a pH > 7, which can lead to sedimentation and poor absorption of the active ingredients, requiring pH adjustment.

From +5% to +15% increases the availability of microelements in the mixture

From -10% to -20% reduces the deposition of elements in drip system piping

From -10% to -30% reduces pH fluctuations in irrigation systems

Particularly suitable for plant root protection and for improving the mixing of fertilizers and the efficiency of solutions.

CHARACTERISTICS

- Effectively regulates the solution pH.
- Improves surface coverage of the sprayed plant.
- Improves nutrient absorption.
- Reduces pesticide or fertilizer losses.

COMPOSITION	%	g/L
Nitrogen (N)	14.0	210.0
Amide nitrogen (N-NH_2)	14.0	210.0
Sulphur (S)	16.0	240.0
Sulphur (SO_3)	40.0	600.0
Dry matter	72.9	
Dry organic matter	72.0	
Organic carbon content	**41.8**	
pH (1:10 H_2O)	0.0 - 1.0	
Density 20°C, g/mL	1.45 - 1.55	
Form	Liquid	

RECOMMENDATION

Depending on the initial pH of the water used for spraying, different doses should be used, on average: 15-50 mL/100 L of water IKAR Perfect pH contains an indicator substance that changes the colour of the water depending on its pH, (see colour palette):

COMPATIBILITY

Used to acidify water before preparing solutions with pesticides and fertilizers. First add Perfect pH, measure the pH of the solution and then add additional products. After the solution has been prepared, the pH should be checked again and, if necessary, a further addition should be made up to pH 6. Perfect pH mixing with calcium-containing products may cause precipitation. In this case, it is recommended to use Korekt.

IKAR®
LIQUID FERTILIZERS

IKAR PerfectFoam

DEFOAMER

For efficient defoaming of sprayer tanks, used in the preparation of fertilizer solutions or pesticide solutions. It works over a wide range of pH and temperature, making it versatile and highly effective, providing a rapid anti-foaming response.

From -70% to -90% reduces foaming in the mixture

From -10% to -20% reduces the loss of active substances caused by foaming

From +10% to +20% improves the spreading of the solution on the leaf surface

Particularly suitable for pesticides, fertilizers and other products that often foam during spraying.

CHARACTERISTICS

- Easily distributed in solution.
- Quickly dissipates foaming in spray tanks.
- Reduces the risk of overfilling the nozzle.
- Speeds up work completion.

COMPOSITION	%	g/L
Non-ionic siloxane	**30.0**	**300.0**
Dry matter	30.3	
Dry organic matter	28.4	
Organic carbon content	**16.5**	
pH (1:10 H_2O)	6.0 - 7.0	
Density 20°C, g/mL	1.0 - 1.1	
Form	Liquid	

RECOMMENDATION

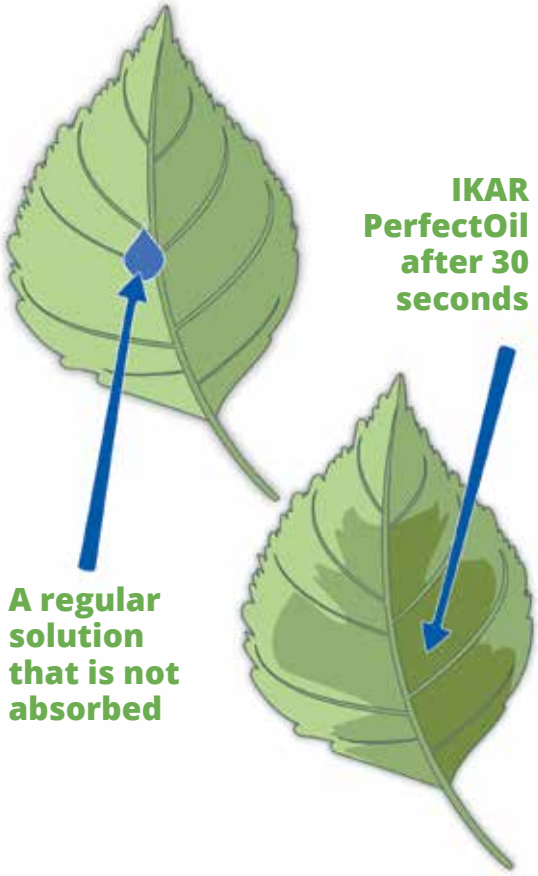
For use in solutions with liquid fertilizers, pesticides, rates: 1-2 mL/100 L of water. The rate can be adjusted depending on the level of foaming of the products used.

COMPATIBILITY

Can be used in mixtures with most fertilizers and pesticides. When used with pesticides, follow label recommendations.

IKAR® LIQUID FERTILIZERS

IKAR PerfectOil



OIL-BASED SURFACTANT

It acts as a physical-state modifier designed to improve the uptake of fertilizer solutions and pesticides when sprayed on leaves. It spreads quickly and evenly on the surface of the leaf, filling in the various depressions and cavities, thus significantly increasing the spreading surface through which active substances (fertilizers, pesticides) are absorbed more efficiently.

From +20% to +35% increases adhesion to the leaf surface

From +15% to +30% improves the spread of the mixture

From -15% to -20% reduces losses of active ingredients in the mixture

Particularly suitable for effective adhesion of fertilizer solutions and pesticides to the leaf surface, reducing run-off, evaporation and wash-off.

CHARACTERISTICS

- Reduces pesticide and fertilizer losses or rates.
- Reduces the likelihood of the solution washing off the surface of the leaf.
- Improves coverage of the sprayed plant.
- Improves nutrient absorption.
- Increases adhesion to the leaf surface under dew or rain conditions, does not evaporate.

COMPOSITION

	%	g/L
Mineral oil	**95.0**	**856.0**
Surfactant	5.0	45.1
Dry matter	97.0	
Dry organic matter	97.0	
Organic carbon content	**56.7**	
pH (1:10 H_2O)	5.0 - 6.0	
Density 20°C, g/mL	0.85 - 0.95	
Form	Liquid	

RECOMMENDATION

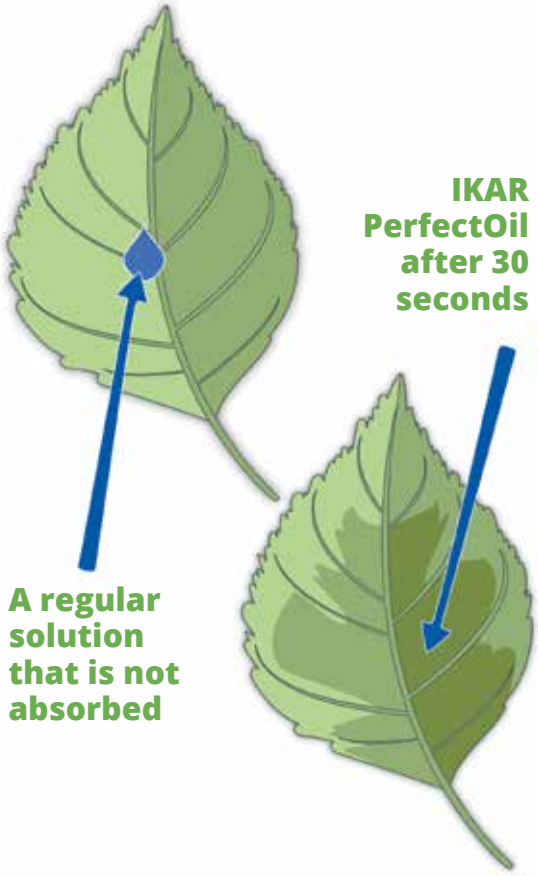
Use in solutions with fertilizer solutions and pesticides at a rate of 1–2 L/ha.

COMPATIBILITY

Can be used with most fertilizers and pesticides. Do not exceed the specified rates as you may increase the effect of agrochemicals and cause phytotoxicity.

IKAR®
LIQUID FERTILIZERS

IKAR PerfectStick



SILOXANE-BASED SURFACTANT

It acts as a physical-state modifier designed to improve the uptake of fertilizer solutions and pesticides when sprayed on leaves. It spreads quickly and evenly on the surface of the leaf, filling in the various depressions and cavities, thus significantly increasing the spreading surface through which active substances (fertilizers, pesticides) are absorbed more efficiently.

From +20% to +35% increases adhesion to the leaf surface

From +15% to +30% improves the spread of the mixture

From -15% to -20% reduces losses of active ingredients in the mixture

Particularly suitable for effective adhesion of fertilizer solutions and pesticides to the leaf surface, reducing run-off, evaporation and wash-off.

CHARACTERISTICS

- Reduces pesticide and fertilizer losses or rates.
- Reduces the likelihood of the solution washing off the surface of the leaf.
- Improves coverage of the sprayed plant.
- Improves nutrient absorption.
- Increases adhesion to the leaf surface under dew or rain conditions, does not evaporate.

COMPOSITION

	%	g/L
Polyether-modified siloxane	**80.0**	**800.0**
Dry matter	87.8	
Dry organic matter	86.3	
Organic carbon content	**50.1**	
pH (1:10 H_2O)	5.0 - 6.0	
Density 20°C, g/mL	1.0 - 1.1	
Form	Liquid	

RECOMMENDATION

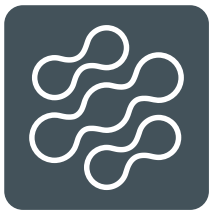
Use in solutions with fertilizer solutions and pesticides. Rates:

- Growth regulators – 3–6 mL/100 L solution
- Herbicides, fungicides, insecticides – 6–20 mL/100 L solution
- Liquid fertilizer – 10–20 mL/100 L solution

COMPATIBILITY

Can be used with most fertilizers and pesticides. Do not exceed the specified rates as you may increase the effect of agrochemicals and cause phytotoxicity.

IKAR® LIQUID FERTILIZERS



IMPROVE

Sustainable green technologies that improve soil properties,
increase water and mineral retention and optimise nutrient uptake –
**to keep the soil alive and yields growing sustainably
year after year.**

HUMI 165

HUMIC ACIDS (LEONARDITE) CONCENTRATE (165 g/L)

Intended to increase soil humus content, break down minerals in the soil and retain moisture, and stimulate biological activity.

From +15% to +25% increases root mass

From +20% to +30% increases nutrient mobility in the soil

From +10% to +15% increases the absorption of nutrients from the soil

Particularly suitable for heavier or nutrient-deficient soils, regions with limited rainfall and intensive crops.

CHARACTERISTICS

- Improves soil structure, porosity, air and water permeability.
- Regulates pH.
- Chelates trace elements in the soil, making them more readily available to plants.
- Improves seed germination and plant rooting and tillering.
- Increases yield potential and production quality.
- Increases plant resistance to adverse conditions, especially drought.

COMPOSITION

	%	g/L
Total humic substance	**15.0**	**165.0**
Humic acids	**12.0**	**132.0**
Fulvic acids	3.0	33.0
Potassium (K)	2.5	275.0
Potassium (K_2O)	3.0	330.0
Dry matter	20.3	
Dry organic matter	7.2	
Organic carbon content	**4.2**	
pH (1:10 H_2O)	12.0 - 13.0	
Density 20°C, g/mL	1.05 - 1.15	
Form	Liquid	

RECOMMENDATION

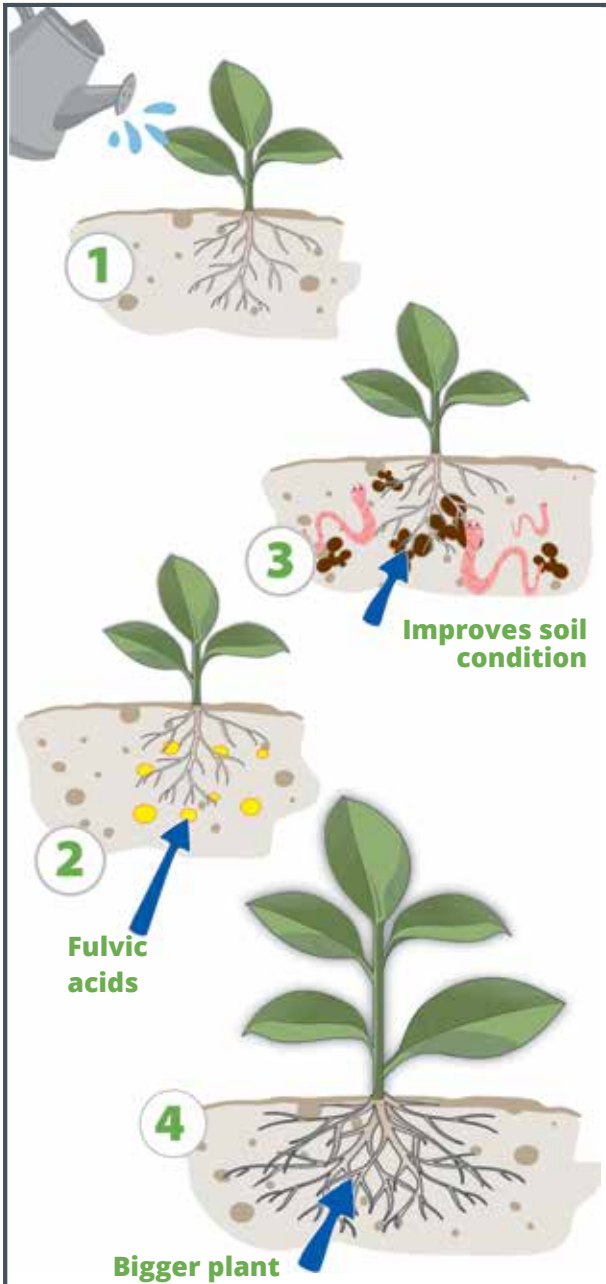
Plants:	Time:	Application and dose:
Cereals	I – BBCH 10–39 (Suitable for fertilization at the start of vegetation)	For spraying: 2.5–5 L/ha For watering: 2.5–10 L/100 L
Oilseed crops		
Legumes plants and grasses		
Edible roots		
Tubers		
Vegetables		
Berries		
Stone fruit, fruit trees		

COMPATIBILITY

May be used in mixtures with soil herbicides, other pesticides and fertilizers unless otherwise specified by the pesticide or fertilizer manufacturer. Do not use with products with pH < 5 and products containing copper (Cu). When mixing with UAN-32, the product should first be diluted with water at the rate of 1:5. Can be mixed with slurry and manure.

IKAR® LIQUID FERTILIZERS

FULVI 570



FULVIC ACID CONCENTRATE (570 g/L)

Designed to increase soil humus content and biological activity, promote mineral breakdown in the soil, and help maintain moisture.

From +20% to +30% increases the absorption of minerals

From +15% to +25% increases root mass

From +15% to +20% increases soil biological activity

Particularly suitable for light, nutrient-deficient soils, where the availability of micronutrients to plants needs to be improved. Recommended for use with liquid nitrogen fertilizers.

CHARACTERISTICS

- Improves soil structure, porosity and air and water permeability.
- Chelates trace elements in the soil, making them more readily available to plants.
- Promotes the development of the root system.
- Increases the efficiency of other fertilizers.
- Increases yield potential and improves production quality.
- Increases plant resistance to adverse conditions, espe cially drought.

COMPOSITION

	%	g/L
Total humic substances	**45.0**	**570.0**
Fulvic acids	**45.0**	**570.0**
Nitrogen (N)	3.0	38.0
Organic nitrogen (N-org)	3.0	38.0
Potassium (K)	3.3	42.3
Potassium (K2O)	4.0	51.0
Dry matter	61.2	
Organic matter	36.5	
Organic carbon content	21.2	
C_{org}/N	7.1	
pH (1:10 H_2O)	5.5 - 6.5	
Density 20°C, g/mL	1.25 - 1.35	
Form	Liquid	

RECOMMENDATION

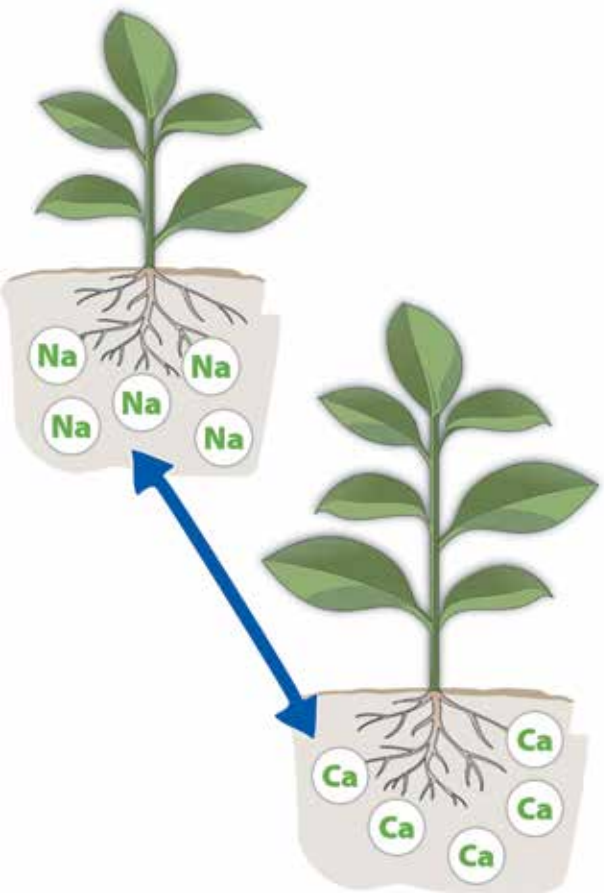
Plants:	Time:	Application and dose:
Cereals	I – BBCH 10–39 (Suitable for fertilization at the start of vegetation)	For spraying: 2.5–5 L/ha For watering: 2.5–10 L/100 L
Oilseed crops		
Legumes plants and grasses		
Edible roots		
Tubers		
Vegetables		
Berries		
Stone fruit, fruit trees		

COMPATIBILITY

May be used in mixtures with soil herbicides UAN-32, other pesticides and fertilizers unless otherwise specified by the pesticide or fertilizer manufacturer. Can be mixed with soil herbicides, slurry and manure. Do not use with products containing high levels of copper (Cu).

IKAR® LIQUID FERTILIZERS

Salinity



SOIL SALINITY REDUCER

A soil salinity reducer and calcium (Ca) fertilizer in one. It is involved in ion exchange and exchanges excess sodium (Na^+) ions in the soil structure for calcium (Ca^{2+}) ions, which are beneficial for plants. Intended for intensively used land, especially in regions with limited rainfall or intensive irrigation practices.

From +10% to +18% increases the availability of calcium in the soil

From -10% to -20% reduces excess sodium in the soil

It is particularly suitable for reducing soil salinity by leaching Na^+ ions into deeper layers.

CHARACTERISTICS

- Reduces ionic toxicity and nutritional imbalances, restores ion exchange balance
- Improves soil structure and water availability to plants
- Improves soil physical properties and ensures a better nutritional balance for plants, reducing abiotic stress

COMPOSITION

	%	g/L
Calcium (Ca)	**5.0**	**57.2**
Calcium (CaO)	**7.0**	**80.0**
Dry matter	25.2	
Dry organic matter	12.5	
Organic carbon content	**7.3**	
pH (1:10 H_2O)	5.5 - 6.5	
Density 20°C, g/mL	1.1 - 1.2	
Form	Liquid	

RECOMMENDATION

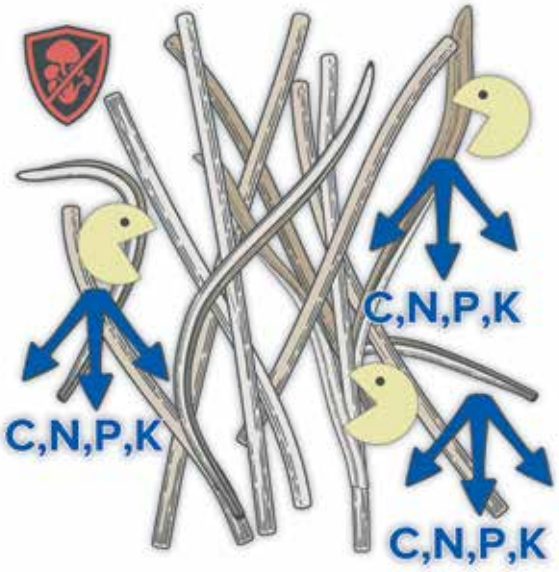
For improving the structure of sandy soils – 10–15 L/ha. For improving the structure of loamy soils – 15–20 L/ha. For improving the structure of clay soils – 20–25 L/ha. Use only in case of mineral deficiency. Do not exceed the indicated doses. The product is intended for professional use only. Shake well before use. Not recommended for use above +25°C or below -10°C.

COMPATIBILITY

Do not use in combination with humic acids and alkaline products (pH > 8).

IKAR® LIQUID FERTILIZERS

CHOP CHOP



PLANT RESIDUE DECOMPOSER

A revolutionary formulation of chemicals, microorganisms and humins developed by IKAR R&D. Designed to accelerate the decomposition of plant residues and create quality soil.

Up to +4 times speeds up the decomposition of plant residues

From +10% to +30% long-term use increases the humus content of the soil

It is particularly suitable for soils with high straw residues and requiring additional humus.

CHARACTERISTICS

- Effectively breaks down plant residues, increasing nutrient availability and uptake by plants.
- Improves soil structure, porosity and water retention.
- Prevents the establishment of pathogenic microorganisms.
- Stimulates the carbon cycle and increases soil fertility.
- Returns nutrients stored in plant residues to the soil.
- Increases soil bioactivity and forms a beneficial soil microbiota.

COMPOSITION	%	g/L
Humic acids	**4.5**	**52.2**
Fulvic acids	**4.5**	**52.2**
Polyether-modified siloxane	**3.2**	**37.12**
Nitrogen (N)	1.2	13.92
Nitrate nitrogen (N-NO_3)	0.9	10.44
Organic nitrogen (N-org)	0.3	3.48
Potassium (K)	5.8	67.39
Potassium (K_2O)	7.0	81.2
Dry matter	58.0	
Organic matter	43.2	
Organic carbon content	**25.1**	
C_{org}/N	**20.9**	
pH (1:10 H_2O)	5.5 - 6.5	
Density 20°C, g/mL	1.1 - 1.2	
Form	Liquid and powder	
Viability	12 months 4–30°C temperature	

RECOMMENDATION

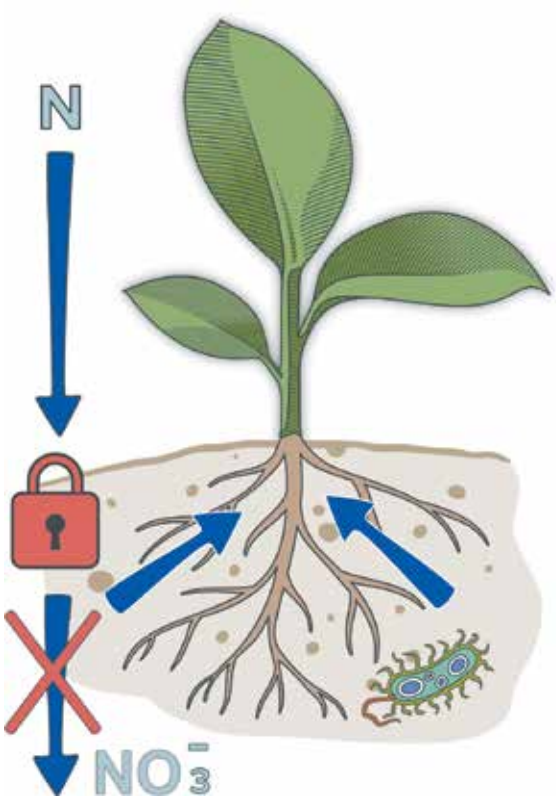
Application rate: 5 L/ha + 50 g/ha. Mix ChopChop 5L/ha liquid part with 150 L/ha water or 75 L/ha UAN-32 and only then with 1/4 pack/ha dry part. Spray on crop residues before sowing in autumn or spring, followed by incorporation as soon as possible (up to 24 hours). When preparing the solution with other products, ChopChop is added last to the reservoir solution. The prepared working solution should be sprayed immediately.

COMPATIBILITY

Natural sediment possible. The manufacturer does not recommend storing the product above +30°C. The manufacturer accepts no responsibility once the package has been opened and not used.

IKAR® LIQUID FERTILIZERS

Diplo N-FIX



BACTERIAL NITROGEN FERTILIZER CONVERSION INHIBITOR

Inhibitor of nitrogen (N) fertilizer conversion and a microbial biostimulator in one. It is designed to ensure more efficient uptake of liquid nitrogen fertilizer and less leaching. The active ingredients slow down the conversion of nitrogen fertilizers to nitrate forms, resulting in lower leaching of nitrogen fertilizer, higher nitrogen use efficiency, higher nitrogen uptake and improved soil health.

From -30% to -70% reduces nitrate leaching

From +15% to +25% increases nitrogen fertilizer efficiency

Particularly suitable for increasing the efficiency of non-nitrate nitrogen fertilizers.

CHARACTERISTICS

- Restores soil structure, maintains soil integrity, stability, porosity and permeability. Forms a beneficial soil microbiota.
- Promotes root development.
- Speeds up the plant's adaptation to unfavourable growing conditions such as heat, cold, drought, soil salinity and excessive moisture.
- Increases the availability and uptake of nutrients (phosphorus, potassium, iron) in the soil.
- Microorganisms contribute to the strong antipathogenic activity against fungal pathogens.

COMPOSITION	%	g/L
Nitrification inhibitor	**62.5**	
Total humic substances	**20.8**	
Fulvic acids	17.5	
Humic acids	3.3	
Organic matter	81.6	
Organic carbon content	**47.3**	
Form	Liquid and powder	
Viability	12 months 4–30°C temperature	

RECOMMENDATION

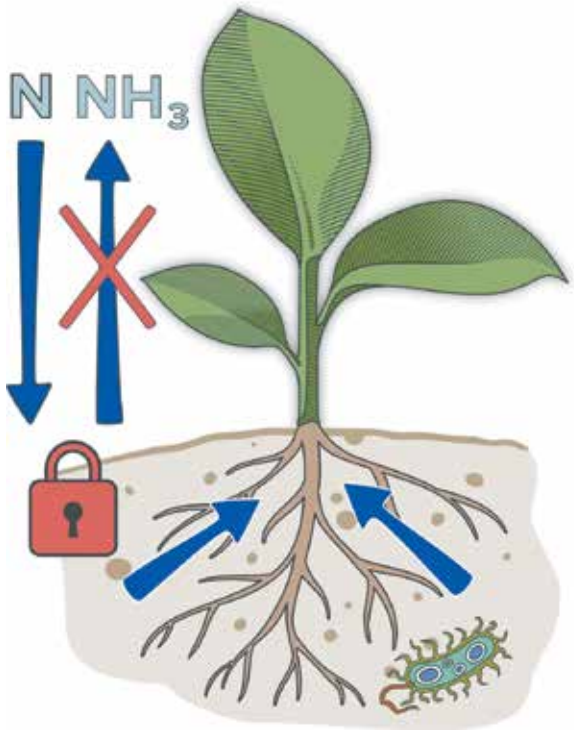
Use in combination with liquid nitrogen fertilizer. Use rate 2 kg/ha. Mixing with slurry is possible, rate 2kg/10t, when dissolved in water (min. 50L) and spraying on manure – rate 2kg/10t.

COMPATIBILITY

Can be mixed with all types of pesticides or fertilizers, unless otherwise specified by the pesticide or fertilizer manufacturer. Natural sediment possible. The manufacturer does not recommend storing the product above +30°C. When preparing the solution with other products including nitrogen fertilizers, Diplo N-Fix is added last to the tank solution. The prepared working solution should be sprayed immediately.

IKAR® LIQUID FERTILIZERS

Diplo N-HOLD



BACTERIAL NITROGEN FERTILIZER CONVERSION INHIBITOR

Bacterial inhibitor of nitrogen (N) fertilizer conversion and a microbial biostimulator in one. Intended to ensure more efficient uptake of liquid nitrogen fertilizers and to reduce their evaporation. It slows down the conversion of urea nitrogen fertilizers to ammoniacal forms, thus ensuring higher nitrogen use efficiency.

From -30% to -50% reduces ammonia evaporation

From +15% to +25% increases nitrogen fertilizer efficiency

Particularly suitable for increasing the efficiency of amide nitrogen fertilizers and soil porosity.

CHARACTERISTICS

- Promotes root development.
- Increases the availability and uptake of nutrients (phosphorus, potassium, iron) in the soil.
- Reduces the sudden acidification of the soil that can occur due to rapid hydrolysis of urea.
- Restores soil structure, maintains soil integrity, stability, porosity and permeability. Forms a beneficial soil microbiota.
- Microorganisms contribute to the strong antipathogenic activity against fungal pathogens.
- Speeds up the plant's adaptation to unfavourable growing conditions such as heat, cold, drought, soil salinity and excessive moisture.

COMPOSITION

	%	g/L
Urease inhibitor	**25.0**	**287.5**
Dry matter	73.7	
Organic matter	60.2	
Organic carbon content	**34.9**	
Density 20°C, g/mL	1.15	
Form	Liquid and powder	
Viability	12 months 4–30°C temperature	

RECOMMENDATION

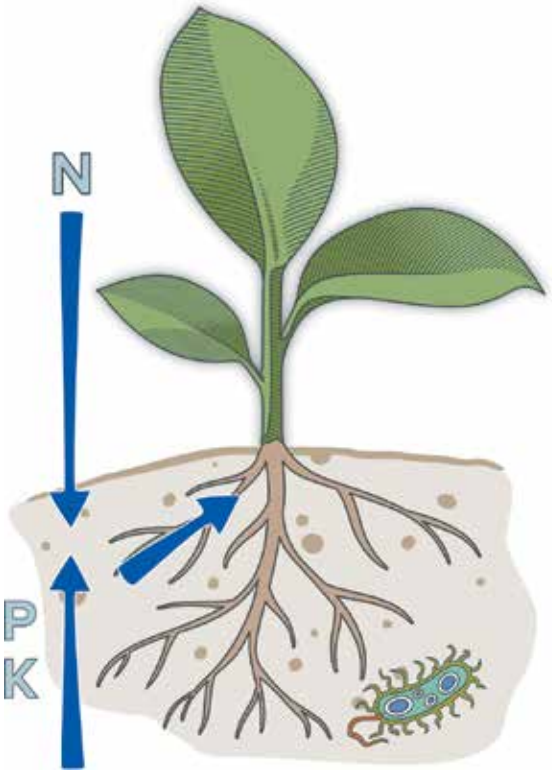
Use in combination with liquid nitrogen fertilizer. Application rate: 1 L/ha + 50 g/ha. Mixing with slurry and manure is possible at a rate of 1L+50g/100t.

COMPATIBILITY

Can be mixed with all types of pesticides or fertilizers, unless otherwise specified by the pesticide or fertilizer manufacturer. Natural sediment possible. The manufacturer does not recommend storing the product above +30°C. When preparing the solution with other products including nitrogen fertilizers, Diplo N-Hold is added last to the tank solution. The prepared working solution should be sprayed immediately.

IKAR® LIQUID FERTILIZERS

Diplo X6



BACTERIAL CONCENTRATE

Bacterial concentrate and microbial plant biostimulant in one. Intended to increase the availability of nitrogen (N), phosphorus (P) and potassium (K) in soil.

Up to +35% improves nutrient uptake from the soil

Up to -20% reduces the need for mineral nitrogen, phosphorus and potassium fertilizers under optimum conditions, if applied for more than one year

Particularly suitable for soils lacking available nutrients.

CHARACTERISTICS

- Increases soil biological activity, microorganism enzyme activity and nutrient metabolism.
- The microorganisms present improve soil structure and composition, microbiota and biological activity. Provides nitrogen, phosphorus and potassium consistently and evenly to the plant.
- Increases fertility.
- Increases the resistance of plants to adverse environmental conditions and diseases by stimulating natural defence reactions and antipathogenic compounds synthesised by bacteria.

COMPOSITION

	%	g/L
Paenibacillus mucilaginosus. Bacillus licheniformis. Bacillus subtilis. Bacillus velezensis. Priestia megaterium. Paenibacillus polymyxa ($1x10^{12}$ CFU/L)		
Microelements: Cu, Co, Fe, Mn, Mo, Zn	**no more than 0.02%**	**no more than 2 g/L**
Nitrogen (N)	0.15	1.58
Ammoniacal nitrogen ($N\text{-}NH_4$)	0.05	0.51
Phosphorus (P)	0.14	1.51
Phosphorus (P_2O_5)	0.33	3.47
Potassium (K)	0.25	2.61
Potassium (K_2O)	0.3	3.15
Calcium (Ca)	0.06	0.59
Calcium (CaO)	0.08	0.82
Sodium (Na)	0.11	1.11
Sodium (Na_2O)	0.14	1.50
Sulphur (S)	0.05	0.53
Sulphur (SO_3)	0.12	1.31
Organic matter	**1.2**	
Dry matter	**3.1**	
pH (1:10 H_2O)	5.0 - 6.0	
Density 20°C, g/mL	1.0 - 1.1	
Form	Liquid	
Viability	24 months 4–25°C temperature	

RECOMMENDATION

Plants:	Time:	Application and dose:
Cereals	Early spring, before sowing or early in the growing season	For spraying: 1–5 L/ha For watering: 0.5–2.5 L/100 L
Oilseed		
Legumes plants and grasses		
Edible roots		
Tubers		
Vegetables		
Berries		
Stone fruit, fruit trees		

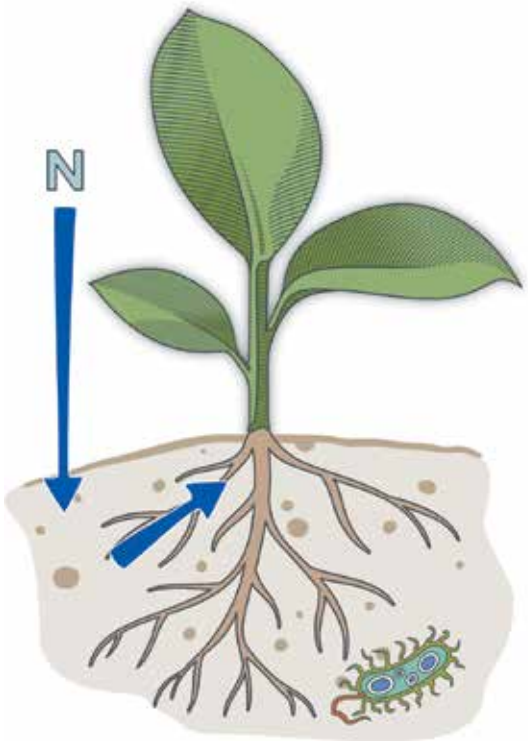
After sowing, Diplo X6 initiates the release of phosphorus and potassium unavailable to the plant, the fixation of nitrogen and the increased absorption of these substances. This product, which helps release phosphorus, potassium and nitrogen into the soil, works best when used after the main fertilization. It can be used together with soil herbicides to improve efficiency and reduce labour costs. However, mixing with salt-based herbicides is not recommended due to possible incompatibility. It is always advisable to consult specialists or agricultural advisers for advice on the correct use or compatibility of mixtures.

COMPATIBILITY

Natural sediment possible. The manufacturer does not recommend storing the product above +30°C. The manufacturer accepts no responsibility once the package has been opened and not used.

IKAR® LIQUID FERTILIZERS

Diplo N



BACTERIAL CONCENTRATE

Bacterial concentrate and microbial plant biostimulant in one. Designed to increase nitrogen (N) availability in the soil.

From +10% to +30% increases the amount of available nitrogen in the soil

From -10% to -25% long-term use reduces the need for nitrogen fertilizers

It is particularly suitable for soils where nitrogen is not readily available.

CHARACTERISTICS

- Up to +50 kg/ha/year converts atmospheric nitrogen into plant-available forms (NH_4^+), reducing the need for nitrogen fertilizer.
- The microorganisms synthesize B vitamins, phytohormones and anti-pathogenic substances that enhance plant growth, stress and disease resistance.
- It also improves the uptake of other nutrients from the soil.
- Activates the carbon and nitrogen cycles.
- Improves soil structure, microbiota and biological activity. Soil performance improves over time, benefiting microbiota, air and water permeability and water retention.
- Improves crop quality and reduces nitrate levels in produce.

COMPOSITION

	%	g/L
Paenibacillus polymyxa (>1.2×10^{12} CFU/L)		
B-group vitamins: B1. B3. B6 and microelements: Cu, Co, Fe, Mn, Mo, Zn	**no more than 0.02%**	**no more than 2 g/l**
Phosphorus (P)	0.03	0.28
Phosphorus (P_2O_5)	0.06	0.64
Potassium (K)	0.68	7.14
Potassium (K_2O)	0.82	8.60
Calcium (Ca)	0.14	1.50
Calcium (CaO)	0.20	2.10
Sodium (Na)	0.18	1.88
Sodium (Na_2O)	0.24	2.53
Sulphur (S)	0.11	1.17
Sulphur (SO_3)	0.28	2.92
Magnesium (Mg)	0.03	0.28
Organic matter	**70.9**	
Dry matter	**7.7**	
pH (1:10 H_2O)	6.0 - 7.0	
Density 20°C, g/mL	1.0 - 1.1	
Form	Liquid	
Viability	24 months 4–25°C temperature	

RECOMMENDATION

Plants:	Time:	Application and dose:
Cereals	Early spring, before sowing or early in the growing season	For spraying: 1–5 L/ha For watering: 0.5–2.5 L/100 L
Oilseed		
Legumes plants and grasses		
Edible roots		
Tubers		
Vegetables		
Berries		
Stone fruit, fruit trees		

After sowing, Diplo N spraying initiates the release of nitrogen that is not available to the plant. This product, which helps to release nitrogen in the soil, works best when applied after the main fertilizer application. It can be used together with soil herbicides to improve efficiency and reduce labour costs. However, it is not recommended to mix with salt-based herbicides due to possible incompatibility. It is always advisable to consult specialists or agricultural advisers for advice on the correct use or compatibility of mixtures.

COMPATIBILITY

Natural sediment possible. The manufacturer does not recommend storing the product above +30°C. The manufacturer accepts no responsibility once the package has been opened and not used.

IKAR® LIQUID FERTILIZERS

Diplo P

BACTERIAL CONCENTRATE

Bacterial concentrate and microbial plant biostimulant in one. Intended to increase the availability of phosphorus (P) in the soil.

From +5% to +20% increases the availability of phosphorus in the soil

From -10% to -20% long-term use reduces the need for phosphorus fertilizers

It is particularly suitable for soils where phosphorus is not readily available to plants.

CHARACTERISTICS

- Up to +40 kg/ha/year improves the availability of insoluble phosphorus compounds to plants in the soil, reducing the need for phosphorus fertilizer.
- The microorganisms synthesize B vitamins, phytohormones and anti-pathogenic substances that enhance plant growth, stress and disease resistance.
- Stimulates root and rhizome development, improves nutrition and plant development.
- Activates the carbon and phosphorus cycles.
- Improves soil structure, microbiota and biological activity. Soil performance improves over time, benefiting microbiota, air and water permeability and water retention.

COMPOSITION

	%	g/L
Bacillus megaterium **(>1.2x10^{12} CFU/L)**		
Phosphorus (P)	0.01	0.1
Phosphorus (P_2O_5)	0.02	0.23
Potassium (K)	0.15	1.5
Potassium (K_2O)	0.18	1.81
Sodium (Na)	0.07	0.74
Sodium (Na_2O)	0.1	1.0
Sulphur (S)	0.06	0.6
Sulphur (SO_3)	0.15	1.52
Calcium (Ca)	0.01	0.14
Calcium (CaO)	0.02	0.2
Organic matter	**66.1**	
Dry matter	**1.7**	
pH (1:10 H_2O)	6.0 - 7.0	
Density 20°C, g/mL	1.0 - 1.1	
Form	Liquid	
Viability	12 months 4–30°C temperature	

RECOMMENDATION

Plants:	Time:	Application and dose:
Cereals	Early spring, before sowing or early in the growing season	For spraying: 1–5 L/ha For watering: 0.5–2.5 L/100 L
Oilseed		
Legumes plants and grasses		
Edible roots		
Tubers		
Vegetables		
Berries		
Stone fruit, fruit trees		

After sowing, Diplo P spraying initiates the release of phosphorus that is not available to the plant. This product, which helps to release phosphorus in the soil, works best when applied after the main fertilizer application. It can be used together with soil herbicides to improve efficiency and reduce labour costs. However, it is not recommended to mix with salt-based herbicides due to possible incompatibility. It is always advisable to consult specialists or agricultural advisers for advice on the correct use or compatibility of mixtures.

COMPATIBILITY

Can be mixed with all types of pesticides or fertilizers, unless otherwise specified by the pesticide or fertilizer manufacturer. Natural sediment possible. The manufacturer does not recommend storing the product above +30°C. Use Diplo P as soon as possible after opening, if not immediately, refrigerate (+4°C) and use within 72 hours. Once opened, the product may become contaminated at any time. The manufacturer accepts no liability for any opened and unused product.

IKAR® LIQUID FERTILIZERS

Diplo K

BACTERIAL CONCENTRATE

Bacterial concentrate and microbial plant biostimulant in one. Intended to increase the availability of potassium (K) in the soil.

From +15% to +20% increases the availability of potassium in the soil

From -10% to -15% long-term use reduces the need for potassium fertilizer

It is particularly suitable for soils where potassium is not readily available to plants.

CHARACTERISTICS

- Improves soil structure, porosity and air and water permeability.
- Regulates pH.
- Chelates trace elements in the soil, making them more readily available to plants.
- Improves seed germination and plant rooting and tillering.
- Increases yield potential and production quality.
- Increases plant resistance to adverse conditions, especially drought.

COMPOSITION

	%	g/L
Bacillus megaterium **(>1.2x10^{12} CFU/L)**		
Phosphorus (P)	0.07	0.72
Phosphorus (P_2O_5)	0.16	1.66
Potassium (K)	0.17	1.73
Potassium (K_2O)	0.2	2.08
Sodium (Na)	0.44	4.62
Sodium (Na_2O)	0.6	6.23
Sulphur (S)	0.26	2.8
Sulphur (SO_3)	0.67	7.01
Calcium (Ca)	0.01	0.13
Calcium (CaO)	0.02	0.19
Magnesium (Mg)	0.01	0.14
Magnesium (MgO)	0.02	0.23
Organic matter	**80.5**	
Dry matter	**7.3**	
pH (1:10 H_2O)	6.0 - 7.0	
Density 20°C, g/mL	1.0 - 1.1	
Form	Liquid	
Viability	12 months 4–30 °C temperature	

RECOMMENDATION

Plants:	Time:	Application and dose:
Cereals	Early spring, before sowing or early in the growing season	For spraying: 1–5 L/ha For watering: 0.5–2.5 L/100 L
Oilseed		
Legumes plants and grasses		
Edible roots		
Tubers		
Vegetables		
Berries		
Stone fruit, fruit trees		

After sowing, Diplo K spraying initiates the release of potassium that is not available to the plant. This product, which helps to release potassium in the soil, works best when applied after the main fertilizer application. It can be used together with soil herbicides to improve efficiency and reduce labour costs. However, mixing with salt-based herbicides is not recommended due to possible incompatibility. For the compatibility of uses or mixtures, it is always recommended to consult specialists or agricultural advisers.

STORAGE AND SAFETY

Diplo K can be mixed with all types of pesticides or fertilizers, unless otherwise specified by the pesticide or fertilizer manufacturer. Natural sediment possible. The manufacturer does not recommend storing the product above +30°C. Use Diplo K as soon as possible after opening, if not immediately, refrigerate (+4°C) and use within 72 hours. Once opened, the product may become contaminated at any time. The manufacturer accepts no liability for any opened and unused product. Free of toxic and irritating substances. Not hazardous to humans, animals and the environment. Rinse with running water after skin contact and/or contact with eyes. Microorganisms can be sensitising and cause an allergic reaction.

IKAR® LIQUID FERTILIZERS

PACKAGING SPECIFICS

Liquid Fertilizer Packaging Options

Package volume	Units per box	Boxes per pallet	Pallet volume
1 L	12	32	384 L
5 L	4	24	480 L
10 L	–	–	600 L

1 L bottles

384 L per pallet

32 boxes x 12 bottles

5 L canisters

480 L per pallet

24 boxes x 4 canisters

10 L canisters

600 L per pallet

60 canisters x 10 L

1000 L IBC

1000 L per pallet

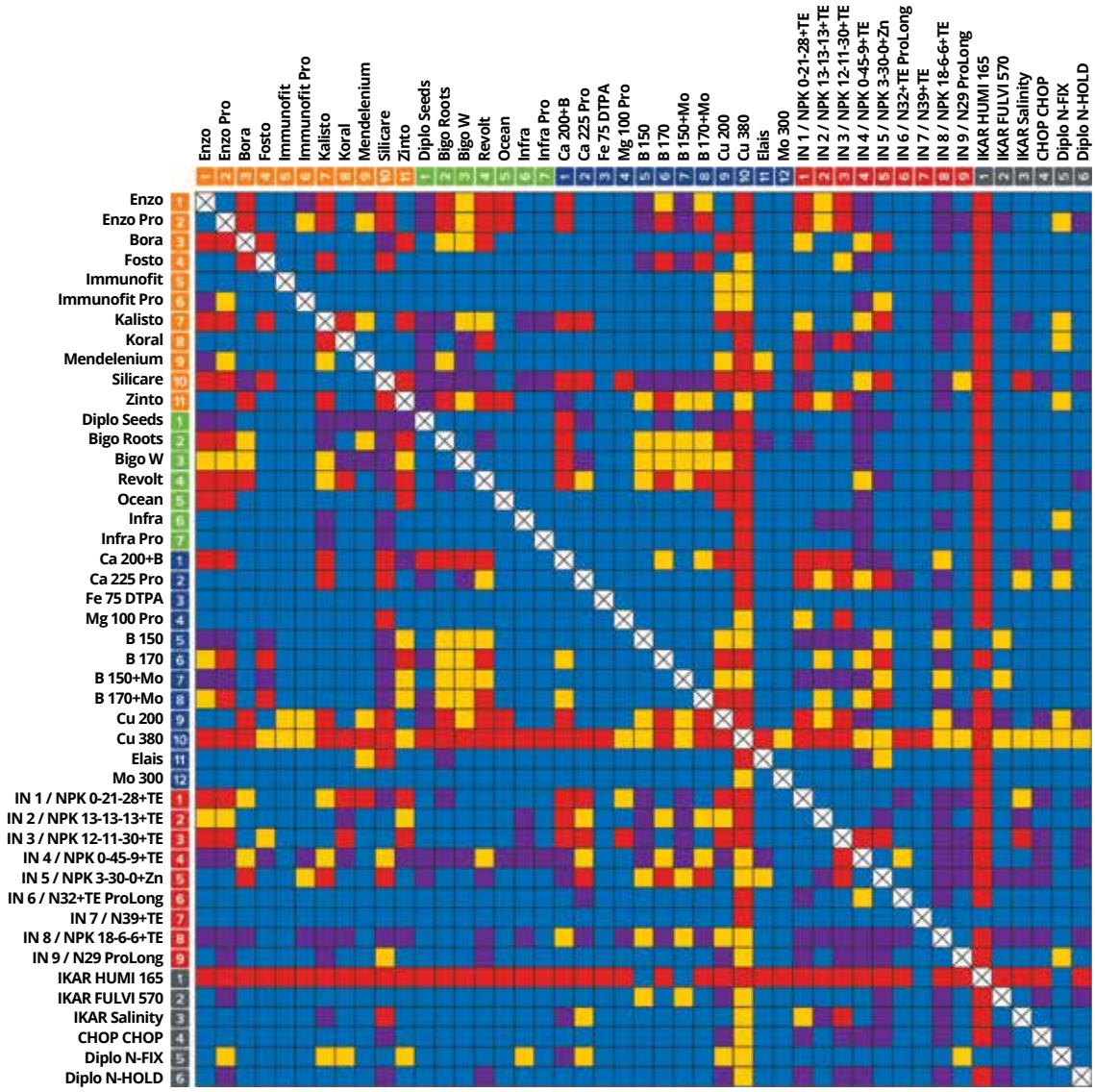
IKAR PRODUCT COMPATIBILITY

Mixes well.

Medium mixing. Nc -ediment. The solution may appear cloudy but become -lear with slight acidification.

Mixing is poor. The are sediments. The solutions can only be mixed after cidification of the mixture.

No mixing.



GENERAL PRODUCT RECOMMENDATION

It is recommended to prepare a small amount of the mixture before mixing to check for sediment. In order to check for phytotoxicity, it is recommended to spray a small area. Keep out of direct sunlight and store at a temperature of at least +4°C.

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IKAR® LIQUID FERTILIZERS

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