SHEFFA

Plant Nutrition & Environmental Health

Product Catalog


QUALITY ASSURANCE MANAGEMENT
ISO
9001
ENVIRONMENTAL MANAGEMENT
ISO
14001

SHEFFA

Plant Nutrition & Environmental Health

Sheffa by Deshen Hatzafon is an agricultural cooperative association established in 2012 by a partnership of 260 kibbutzim united through seven commercial regional enterprises, with the goal of transforming itself into a global plant health and nutrition leader.

Since its founding, the company has significantly decreased the price of fertilizer for farmers around the world, while meeting its goals and increasing its share of the agricultural fertilizer market.

Our factory, located in Emek HaMa'ayanot (Valley of the Springs) in Israel, produces a variety of smart fertilizer compounds, classified as solid, liquid, bio-stimulant, and micro-element.

These compounds are manufactured to suit crop types and plant's nutrient uptake (through roots or foliage) based on the recommendations of professional agronomists following an assessment of a range of variables, such as environmental conditions and nutrient levels in plants, soil, and water.

The Company also makes substantial investments in research and development and conducts comprehensive field tests, with the aim of developing new products and upgrading existing ones. Sheffa also places great emphasis on seeking novel nutritional solutions for enhancing plant health and fertility. In addition to operating an advanced R&D laboratory, Sheffa employs a team of experts comprised of engineers, chemists, technologists, and agronomists who work across the country to ensure ongoing and direct communication with farmers.

The Company has in recent years developed the Dynamic Protocol, a unique and holistic method for growing and fertilizing plants. This novel service places an emphasis on both plant and soil health, incorporating cutting-edge technologies and new interface methods to ensure optimal results while strengthening the plant, nurturing the growing environment, and improving the soil's natural fertility to enable sustainable agriculture.

Solid Fertilizer

Complex

Solimix Aviv CHLORIDE FREE

Premium fertilizer, without added chloride. Greenhouse Grade.

Packaging unit	Bags of 1 ton (big bag) / 25 kg.
Storage Conditions	Store in a dry and shady place, preferably on pallets. For more details, please refer to page 24.
Application	Via fertigation or foliar spray.
Suitable for	All types of crops, especially vegetables, spices, ornamental plants, crops in a soilless culture and chloride-sensitive crops.

List of leading compounds, with an option of production of tailor-made NPK compounds. Contact us for additional details and consult.

Description	NPK ratio	$N\text{-}NH_4$ % Ammoniacal Nitrogen	$N\text{-}NH_2$ % Amide Nitrogen	$N\text{-}NO_3$ % Nitrate Nitrogen	Application Season
20-20-20+TE	1-1-1	3.8	10.7	5.5	Multi-seasonal
17-10-27+TE	5-3-8	5.7	0.0	11.3	Multi-seasonal
13-40-13+TE	1-3-1	7.9	4.3	0.8	Multi-seasonal
16-8-35+TE	2-1-4.5	1.5	4.6	9.9	Multi-seasonal
19-19-19+0.5MgO+TE	1-1-1	3.6	9.9	5.5	Multi-seasonal
23-7-23+TE	23-7-23	0.0	17.6	5.4	Multi-seasonal
12-9-35+1.5TE+2MgO	4-3-12	1.2	0.0	10.8	Multi-seasonal

Solimix Marom LOW-CHLORIDE

Up to 10% chloride.

Packaging unit	Bags of 1 ton (big bag) / 25 kg.
Storage Conditions	Store in a dry and shady place, preferably on pallets. For more details, please refer to page 24.
Application	Via fertigation.
Suitable for	All types of crops, especially vegetables, crops in soilless culture, greenhouses and net houses.

List of leading compounds, with an option of production of tailor-made NPK compounds. Contact us for additional details and consult.

Description	NPK ratio	N-NH_4 % Ammoniacal Nitrogen	N-NH_2 % Amide Nitrogen	N-NO_3 % Nitrate Nitrogen	Application Season
17-10-27+TE	1-0.6-1.6	3.1	9.2	4.7	Multi-seasonal
23-7-23+TE	1-0.3-1	1.4	18.6	3.0	Multi-seasonal
20-20-20+TE	1-1-1	3.9	12.1	4.0	Multi-seasonal
20-2-30+TE	1-0.1-1.5	1.7	14.5	3.8	Multi-seasonal
12-7-19+2MgO+TE	1-0.6-1.6	9.0	3.0	0.0	Multi-seasonal

Solimix Negev

Based on MOP.

Packaging unit	Bags of 1 ton (big bag) / 25 kg.
Storage Conditions	Store in a dry and shady place, preferably on pallets. For more details, please refer to page 24.
Application	Via fertigation.
Suitable for	All types of crops, especially vegetables and orchards such as avocados, bananas and citrus. Not suitable for use in soilless culture or chloride-sensitive crops.

List of leading compounds, with an option of production of tailor-made NPK compounds. Contact us for additional details and consult.

Description	NPK ratio	N-NH_4 % Ammoniacal Nitrogen	N-NH_2 % Amide Nitrogen	N-NO_3 % Nitrate Nitrogen	Application Season
15-0-15	1-0-1	15.0	0.0	0.0	Multi-seasonal
17-10-27+TE	5-3-8	4.2	12.8	0.0	Multi-seasonal
20-20-20	1-1-1	3.9	16.1	0.0	Multi-seasonal
16-8-32	2-1-4	1.6	14.4	0.0	Multi-seasonal
15-4-15	1-0.3-1	15	0.0	0.0	Multi-seasonal
10-0-30	1-0-3	10	0.0	0.0	Multi-seasonal
33-0-14	1-0-0.4	0.4	32.1	0.0	Multi-seasonal

Solimix Carmel CHLORIDE FREE

Enriches with sulphur (S).

Packaging unit	Bags of 1 ton (big bag) / 25 kg.
Storage Conditions	Store in a dry and shady place, preferably on pallets. For more details, please refer to page 24.
Application	Via fertigation or foliar spray.
Suitable for	All types of crops, especially vegetables, spices, ornamental plants, crops in a soilless culture and chloride-sensitive crops.

List of leading compounds, with an option of production of tailor-made NPK compounds. Contact us for additional details and consult.

Description	NPK ratio	N-NH_4 % Ammoniacal Nitrogen	N-NH_2 % Amide Nitrogen	N-NO_3 % Nitrate Nitrogen	Application Season
19-19-19+TE	1-1-1	3.7	12.8	2.5	Multi-seasonal
17-10-27+TE	5-3-8	4.2	12.8	0.0	Multi-seasonal
13-5-20	13-5-20	13.0	0.0	0.0	Multi-seasonal
16-8-32	2-1-4	1.6	14.4	0.0	Multi-seasonal
18-18-18	1-1-1	6.9	8.0	3.1	Multi-seasonal
20-20-20	1-1-1	3.9	12.1	4.0	Multi-seasonal
11-8-22+TE	1-0.7-2	11.0	0.0	0.0	Multi-seasonal
30-10-10+TE	1-0.3-0.3	2.6	27.4	0.0	Multi-seasonal

Solimix Granular

Packaging unit	Bags of 1 ton (big bag) / 25 kg.
Storage Conditions	Store in a dry and shady place, preferably on pallets. For more details, please refer to page 24.
Application	Centrifugal dispersal or by air seeder.
Suitable for	All types of crops, especially field crops, vegetables and orchards.

List of leading compounds, with an option of production of tailor-made NPK compounds. Contact us for additional details and consult.

Description	NPK ratio	$N\text{-}NH_4$ % Ammoniacal Nitrogen	$N\text{-}NH_2$ % Amide Nitrogen	$N\text{-}NO_3$ % Nitrate Nitrogen	Application Season
7-22-22	7-22-22	0.0	7.0	0.0	Multi-seasonal
16-16-16	1-1-1	0.0	16.0	0.0	Multi-seasonal
0-26-26	0-1-1	0.0	0.0	0.0	Multi-seasonal
17.5-3.5-.17.5	1-0.2-1	5.6	11.9	0.0	Multi-seasonal

A unique complex granular fertilizer containing nitrogen, phosphorus, and potassium.

Designed for spreading in arable crops, orchards, and open-field vegetables, available in various formulations and combined with microelements, biostimulants and slow release nitrogen

General Fertilization Recommendations

Crop

TOMATO

Total annual consumption in Kg/ha:

N	P_2O_5	K_2O
324 Kg	209 Kg	488 Kg

Phenological Stage	NPK ratio		g/ha/Day				Fertilizer (Kg/ha/Day)	
	$N\text{-}P_2O_5\text{-}K_2O$	Days	N	P_2O_5	K_2O	Mg	SOLIMIX AVIV 20-20-20+TE	SOLIMIX AVIV 17-10-27+TE
Planting to Blooming	1-1-1	30	1500	1500	1500	0	7.5	-
Blooming to Ripening	1-0.58-1.58	30	2500	1470	3970	520	-	14.7
Harvest	1-0.58-1.58	60	3400	2000	5400	694	-	20

Additional recommendations:

- **HomiGreen Barak** - Nutrient supplement, improves mineral absorption while enriching the soil with natural organic matter - 50 liter/ha allocated throughout the season.
- **Kineret Magsid 7-0-0+6Ca+2Mg** - Liquid fertilizer - 20 liter/ha per week.

General Fertilization Recommendations

Crop

AVOCADO

Total annual consumption in Kg/ha:

N	P_2O_5	K_2O
300 Kg	30 Kg	300 Kg

Season	Fertilizer	Amount
Spring	**Kinnert Iron** (liquid) EDDHSA FE chelate **HomiGreen Barak** (liquid humic acid)	14.4 L/ha 20 L/ha
Spring (first 2 months)	**Solimix AVIV 23-7-23+TE** Alternative option: **Solimix NEGEV 15-4-15+TE** ***micronutrients** per hectare: **Fe** 456g, **Mn** 225g, **Zn** 112.5g, **Cu** 22.5g, **Mo** 6.75g.	430 Kg/ha 550 Kg/ha
Summer	**Solimix AVIV 26-0-26** Alternative option: **Solimix NEGEV 15-0-15** * **In case of high annual yield** (over 20 T/ha), we recommend adding an additional 190 Kg/ha.	780 Kg/ha 1336 Kg/ha
Autumn	**HomiGreen Barak** (liquid humic acid)	20 L/ha

Fertilizer Packaging unit:

- **Solid Fertilizer**
  25 kg bags.
- **Liquid Fertilizer**
  10L Container / 1000L IBC.
- This program represents GENERAL RECOMMENDATIONS.

For more information, accurate use recommendations based on local analysis, and specific fertilization program for your field please contact us:

Sales@sheffa.org | www.sheffa.org | Or Koren: +972-52-375-0171

Nutrient Supplements

Biostimulants and Soil Optimizers

HomiGreen Barak

Density 25°C (±0.03)	pH (±1)	Crystallization [C°]
1.10	11.0	5

Content in 1L	Suitable for	Packaging unit
15% organic material (humic and fulvic acids), 3% potassium oxide K_2O.	All types of crops	IBC 1,000L / 10L Container

Dosage per hectare

- Young orchards / vegetables, 30-60 liters per hectare per season, 1 liter in a single dose.
- Mature orchards, 30-60 liters per hectare per season, 2 liters in a single dose.

Instructions for Use

- Shake well before use.
- Suitable for injection into irrigation system / dripper / sprinklers.
- Humic and fulvic acids additive at 1:4 ratio in water and mix well.
- Apply after fertilization, do not mix with fertilizer.
- Use the product within 30 days of opening.
- Not intended for direct use on the plant.

BoriGreen

Humic and fulvic acids additive to the fertilizer

May be ordered with an iron supplement - for optimal feeding results

Density 25°C (±0.03)	pH (±1)	Crystallization [C°]
1.08	6.4	0

Content in 1L	Suitable for	Packaging unit
18% organic material (humic and fulvic acids), 2% potassium oxide K_2O.	All types of crops	IBC 1,000L / 10L Container

Dosage per hectare

- As a fertilizer supplement: 1%-2% in the fertilizer solution, according to agronomist recommendations.
- As a separate irrigation from the fertilizer: 30-60 liters per hectare per season.

Instructions for Use

- Shake well before use.
- Suitable for injection into irrigation system / dripper / sprinkler or as an addition to the fertilizer tank, **according to agronomist recommendations.**
- Not suitable for combination with acidic fertilizer.
- Use the product within 30 days of opening.
- Not intended for direct use on the plant.

Packaging unit	IBC / 10L Container.
Storage Conditions	Avoid contact with acid, direct exposure to the sun and high temperatures. Crystals/sediment may form when stored at low temperatures. This does not affect the quality of the product - the crystals dissolve in water.
Comments	For accurate dosing depending on the type of crop and soil, our agronomists are at your service for information and guidance.

FerroGreen

Density 25°C (±0.03)
1.2

pH (±1)
7

Crystallization [C°]
0

Content in 1L
6.4% Fulvic acids, 2% Iron chelate EDDHSA, approximately 2.8% Organic carbon, 0.7% Potassium oxide.

Packaging unit
IBC 1,000L / 10L Container

Suitable for
Soil conditioning and improving iron absorption in the soil, especially suitable for: avocado, mango, lychee, peanuts, bananas, and vegetables.

Dosage per hectare
- For application of iron equal to 30g: 12.2L per hectare.
- For application of iron equal to 60g: 24.4L per hectare.

Instructions for Use
- Shake well before use.
- Suitable for injection into irrigation system / dripper / sprinklers.
- Use the product within 30 days of opening.

BioBoost

Suitable for foliar spraying
✓

Density 25°C (±0.03)
1.11

pH (±1)
5.4

Crystallization [C°]
0

Content in 1L
11% Fulvic acids, 7.2% Amino acids, 1.5% Seaweed extract.

Suitable for
All crops, especially effective in light and poor soils.

Packaging unit
IBC 1,000L / 10L Container

Dosage per hectare
- Foliar spraying: Spray at a concentration of 1%-3% of the spray volume and repeat the process several times.
- Soil application via irrigation system: 20-40 liters per hectare.

Instructions for Use
- Shake well before use.
- Use the product within 30 days of opening.
- Not suitable for combination with acidic fertilizer.
- Use the product within 30 days of opening.
- Not intended for direct use on the plant.
- Conduct a sample spray on a single plant or tree.

Kinneret Sheffa

Packaging unit
IBC 1,000L
/ 10L Container

Density 25°C (±0.03)	pH (±1)	Crystallization [C°]
1.3	7.5	5

Content in 1L
20g Iron EDDHSA chelation (1.5%), 9g Manganese (Mn) EDTA chelation, 5g Zinc (Zn) chelation, 1g Copper (Cu) EDTA chelation, 0.5g Molybdate (Mo) EDTA chelation.

Dosage per hectare
- 30L of solution in 2-3 doses over 2 weeks.

Suitable for
All types of crops

Instructions for Use
- Shake well before use.
- Suitable for injection into irrigation system / dripper / sprinklers.

Kinneret Iron

Packaging unit
IBC 1,000L
/ 10L Container

Density 25°C (±0.03)	pH (±1)	Crystallization [C°]
1.31	7.5	5

Suitable for
All types of crops, especially peanuts, deciduous trees, citrus, subtropicals (avocado, mango, lychee), blueberries, strawberries, and vineyards.

Dosage per hectare
- 7-14 liter per solution. (Each 14 liters are equal to 1kg solid iron 6%)

Content in 1L
42g Iron (3.2%) chelated-EDDHSA 1.44 liters Kinneret Iron equals 1kg solid Iron 6%.

Instructions for Use
- Shake well before use.
- Suitable for injection into irrigation system / dripper / sprinklers.

Kinneret Zinc

Packaging unit
IBC 1,000L
/ 10L Container

Density 25°C (±0.03)	pH (±1)	Crystallization [C°]
1.17	6.5	5

Content in 1L
49g zinc chelate (EDTA).

Dosage per hectare
- 10-20L in orchards and vegetables.

Suitable for
All types of crops, especially almonds, avocados, olives, citrus, deciduous trees, and vineyards.

Instructions for Use
- Shake well before use.
- Suitable for injection into irrigation system / dripper / sprinklers.

Kinneret Manganese

Packaging unit
IBC 1,000L
/ 10L Container

Density 25°C (±0.03)	pH (±1)	Crystallization [C°]
1.15	7	5

Content in 1L
48g manganese chelate (EDTA).

Dosage per hectare
- 5-30 liters in orchards and vegetables.

Suitable for
All types of crops

Instructions for Use
- Shake well before use.
- Suitable for injection into irrigation system / dripper / sprinklers.

Kinneret Magnesium

Packaging unit
IBC 1,000L / 10L Container

Suitable for foliar spraying	Density 25°C (±0.03)	pH (±1)	Crystallization [C°]
✓	1.22	1.5	0

Suitable for
All types of crops, especially tomatoes, citrus, peppers, crops irrigated with desalinated water, and vineyards.

Dosage per hectare
Spray concentration of 1%-2% per hectare and repeat several times. May be applied also through the irrigation system.

Content in 1L
51g magnesium (Mg), 84g magnesium oxide (MgO), 58g Nitrogen ($N\text{-}NO_3$).

Instructions for Use
• Shake well before use. • Suitable for injection into irrigation system / dripper / sprinklers. • Sample the spray on a single plant or tree.

Kinneret Calcium

Packaging unit
IBC 1,000L / 10L Container

Suitable for foliar spraying	Density 25°C (±0.03)	pH (±1)	Crystallization [C°]
✓	1.42	1.5	5

Suitable for
All types of crops, especially tomatoes, citrus, peppers, crops irrigated with desalinated water, and vineyards.

Dosage per hectare
Spray concentration of 1% per hectare and repeat several times. May beapplied also through the irrigation system.

Content in 1L
150g Calcium (Ca), 210g Calcium Oxide (CaO), 105g Nitrogen ($N\text{-}NO_3$).

Instructions for Use
• Shake well before use. • Suitable for injection into irrigation system / dripper / sprinklers. • Sample the spray on a single plant or tree.

Ferro Boost

Packaging unit
Carton 20kg - 4 units of 5kg bags.

Suitable for foliar spraying	EDDHA 6% (ortho-ortho=4.8%)
✓	Iron chelate for nourishing all types of plants

Content in 1L
Water-soluble granules in a red-brown color containing iron in chelated form.

Dosage
Up to 60 grams of powder per 1 liter of water.

Suitable for
All types of crops, especially citrus, deciduous trees, subtropical plants, bananas, cucumbers, tomatoes, peppers, and peanuts.

Instructions for Use
Apply directly to the soil by spreading around the plant or through solution injection into the irrigation system (recommended).

Kinneret Magsid

5.9-0-0+3Ca+3Mg

A combination of Magnesium and Calcium
Available in additional compositions

Packaging unit
IBC 1,000L / 10L Container

Suitable for foliar spraying	Density 25°C (±0.03)	pH (±1)	Crystallization [C°]
✓	1.25	1.5	0

Content in 1L
75g Ammonium nitrate ($N\text{-}NO_3$), 38g Calcium (Ca), 53g Calcium oxide (CaO), 38g Magnesium (Mg), 63 g Magnesium oxide (MgO).

Dosage for foliar spraying
3%-5% of the spray volume, spray on both sides of the leaf until fully wet.

Suitable for
All types of crops, especially crops irrigated with desalinated water.

Instructions for Use
• Shake well before use. • Suitable for injection into irrigation system/ dripper / sprinklers. • Sample the spray on a single plant or tree.

Berries

Elements Source	Ammoniac Sulfate, MAP, Potassium Sulfate, Potassium Nitrate.
Corrosivity	Low.
Storage	In containers made of high-density polyethylene only. For more details, please see page 24.
Packaging unit	IBC 1,000L / 10L Container.
Storage Conditions	Crystals may form during storage at low temperatures. This phenomenon does not affect product quality – the crystals dissolve in water.
Application	In the irrigation system / dripper / sprinklers.
Comments	A unique fertilizer line, **chloride-free**, developed for blueberries. Characterized by high concentrations of ammonium, for maintaining optimal pH in the root environment and very high concentrations of microelements for optimal nutrition.

List of leading compounds, with an option of production of tailor-made compounds. Contact us for additional details and consult.

		Liter of fertilizer per unit									
Description	**NPK ratio**	**N**	**P_2O_5**	**K_2O**	**Density 25°C (±0.03)**	**Crystallization [°C]**	**pH (±1)**	**N-NH_4 % Ammoniacal Nitrogen**	**N-NH_2 % Amide Nitrogen**	**N-NO_3 % Nitrate Nitrogen**	**Application Season**
Berries 4-1-4+TE	1-0.2-1	20.5	82.0	20.5	1.18	6	5.1	3.2	0.0	0.8	Multi-seasonal
Berries 5-1-2+TE	1-0.2-0.4	16.6	83.3	41.6	1.20	5	4.7	5.0	0.0	0.0	Multi-seasonal
Berries 5-2-3+TE	1-0.4-0.6	16.4	41.0	27.3	1.22	11	4.3	5.0	0.0	0.0	Summer
Berries 1-1-6+TE	1-1-6	87	87	14.6	1.14	9	4.6	0.2	0.0	0.8	Summer

Elevated TE concentrations = Fe-1660ppm, Mn-1600ppm, Zn-150ppm, Cu-36ppm, Mo-18ppm.

TerraBoost

Suitable for foliar spraying	Density 25°C (±0.03)	pH (±1)	Crystallization [C°]
✓	1.19	5.5	0

Content in 1L

43g nitrate nitrogen (N-NO_3), 5g organic nitrogen (N-Organic), 38g calcium nitrate (Ca), 12g magnesium (Mg), 1g iron (Fe) EDDHA chelation, 600mg zinc (Zn), 600mg manganese (Mn), 40Mg copper (Cu), 20mg molybdate (Mo) EDTA chelation.

Packaging unit

IBC 1,000L
/ 10L Container

Suitable for

All types of crops, especially cannabis, lettuce, parsley, orchids, and crops irrigated with desalinated water.

Dosage

Dilute at 1:2 in water and mix well.

Instructions for Use

- Shake well before use.
- Suitable for injection into irrigation system / dripper / sprinklers.

Hydroponic Systems

Leaf A

Density 25°C (±0.03)	pH (±1)	Crystallization [C°]	Packaging unit
1.13	2.8	1	IBC 1,000L / 10L Container

Content in 1L

2.2% Nitrogen (N-Total), 1.1% Phosphorus (P_2O_5), 3.5% Potassium (K_2O), 2.3% Calcium (Ca), 600ppm Iron (Fe), 300ppm Manganese (Mn), 150ppm Zinc (Zn), 36ppm Copper (Cu), 16ppm Molybdenum (Mo).

Suitable for

Hydroponic cultivation of leafy greens and vegetables with desalinated/RO water.

Dosage

4.5 liters of fertilizer per 1 cubic meter of water.

Instructions for Use

- Shake well before use.
- Dilute the product with water in the fertilizer tank and inject it into the irrigation system according to agronomist recommendations.

LEAF A + LEAF B

Complementary products
Should be applied together

Leaf B

Density 25°C (±0.03)	pH (±1)	Crystallization [C°]	Packaging Unit
1.07	6.5	1	IBC 1,000L / 10L Container

Content in 1L

2.8% Potassium (K_2O), 2.3% Calcium (Ca), 0.6% Magnesium 1.6% Chloride 3.3% Sulfate.

Suitable for

Hydroponic cultivation of leafy greens and vegetables with desalinated/RO water.

Dosage

3.3 liters of fertilizer per 1 cubic meter of water.

Instructions for Use

- Shake well before use.
- Dilute the product with water in the fertilizer tank and inject it into the irrigation system according to agronomist recommendations.

Important to know!

Both products are complementary products and should always be applied together according to the application instructions detailed above.

Due to the high sensitivity and the variation in the background groundwater in different parts of the country, the product does not contain boron. If the concentration of boron in the background groundwater is lower than 0.21ppm, a "boron concentration" must be added. Calculate the addition according to the amount of boron in the water.

Foliar Feeding

Important fertilization practice which allows for increasing the accessibility of essential minerals and biostimulants to the plant.

Foliar feeding has a number of notable advantages:

- **Rapid absorption in the plant -** the fertilizer is absorbed at the target sites and is available for performing essential biological functions.
- **Ideal for quick correction of deficiencies.**
- **Ultimate nutrition** when absorption through the plant's root system is limited (e.g. due to soil pH, temperature or drainage problems).
- **High and efficient absorption of low-availability microelements in the soil.**

Important to know!

Amino acids

Essential for the plant in order to build proteins. Amino acids given directly through the foliage significantly increase the efficacy of the protein production process in the plant in terms of energy.

Algae extract

Produced from algae called Ascophyllum Nodosum, with its unique composition containing macro and micronutrients, amino acids and plant hormones such as auxin, cytokinin and gibberellin. Studies show that use of this algae has multiple benefits such as improving the plant's immune system, encouraging growth and cell division and increasing fruit shelf life.

Humic and fulvic acids

Contribute to improving the absorption of minerals in the leafs and their movement through the plant.

FoliMix

The ideal solution for green healthy foliage!

We have developed an innovative and groundbreaking product that is easily absorbed through plant foliage and effectively addresses micronutrient deficiencies.
The product is based on an organic complex containing an optimal ratio of micronutrients and bio stimulants.

- **Correction of micronutrient deficiencies when soil absorption conditions are suboptimal.**
- **Promotes chlorophyll production for greener and more vital leaves.**
- **Improves photosynthesis efficiency.**
- **Enhances and strengthens the plant's resilience.**

Storage Conditions	Keep in a cool and dry place. For more details, please refer to page 24.
Packaging unit	Liquid fertilizer: IBC 1,000L/10L container.
Application	Foliar spraying.
Instructions for Use	Perform test on one plant or tree before applying to the whole area, especially during flowering and ripening. Do not spray plants in cases of water stress or on dry and hot days. We recommend spraying leaves intended for eating before the rain.
Suitable for	All types of crops, especially orchards during the awakening period, vegetables and ornamental plants.
Comments	For foliar feeding, high efficiency may be achieved when applied at the beginning or end of the season, before the soil warms or cools. Foliar feeding is intended to provide support in addition to soil feeding, as needed. However, it is not a substitute for soil feeding.

Suitable for foliar spraying ✓

Density 25°C (±0.03)
1.16

pH (±1)
4.5

Crystallization [C°]
0

Content in 1L

232g of fulvic acids, 11.6g of iron, 6.6g of manganese, 7.3g of zinc.

Dosage per hectare

2%-4% of the spray volume. Repeat the application every 7-10 days until the desired result is achieved (usually 2-3 applications). For precise dosing, consult an agronomist.

Suitable for

All types of crops

Instructions for Use

- Shake well before use.
- Perform test on one plant or tree before applying to the whole area, especially during flowering and ripening.
- Do not spray plants in cases of water stress or on dry and hot days.

NutriTabs

A new development in plant and environment nutrition.

Nutritional tablets designed to promote optimal plant growth and prosperity, as well as its surrounding environment, using various nutrient compositions precisely tailored to different growth stages.

Step 1

Start Boosting

For planting stages

NPK compositions: 4-4-4+TE

Step 2

Bloom Boosting

From the establishment of the plant throughout the growing

NPK compositions: 4-2-6+TE

Ongoing treatment

Bio Boosting

For the plant establishment phase and throughout the entire growth period.

Contains organic materials: amino acid, seaweed extract, and naturally sourced fulvic acids.

Cannabis

Elements Source	MKP, Potassium Sulfate, Phosphoric Acid, Iron and Microelements, TPP.
Corrosivity	Low.
Storage	In containers made of high-density polyethylene only. For more details, please see page 24.
Packaging unit	IBC 1,000L / 10L Container.
Storage Conditions	Crystals may form during storage at low temperatures. This phenomenon does not affect product quality – the crystals dissolve in water.
Application	In the irrigation system / dripper / sprinklers.
Comments	Unique fertilizer compositions developed specifically for medical cannabis after a series of trials. **chloride-free.**

List of leading compounds, with an option of production of tailor-made compounds. Contact us for additional details and consult.

Description	Density 25°C (±0.03)	Crystallization [°C]	pH (±1)	N-NH_4 % Ammoniacal Nitrogen	N-NH_2 % Amide Nitrogen	N-NO_3 % Nitrate Nitrogen	Application season
CNB VEG 0-5-5+TE	1.13	2	2.2	0	0	0	Multi-seasonal
CNB REP 0-4.8-7.2+TE	1.14	3	6.8	0	0	0	Multi-seasonal
Kinneret Magsid 7.4-0-0+5.5Ca+2.5Mg	1.28	0	1.5	0	0	7.4	Multi-seasonal

Liquid Fertilizer

Complex

Koren CHLORIDE FREE

Elements Source	Ammonium nitrogen, MAP, Potassium Nitrate.
Corrosivity	Some of the compositions damage metals.
Storage	In containers made of high-density polyethylene only. For more details, please see page 24.
Packaging unit	IBC 1,000L / 10L Container. We recommend consulting with our agronomist.
Storage Conditions	Crystals may form during storage at low temperatures. This phenomenon does not affect product quality – the crystals dissolve in water.
Application	In the irrigation system / dripper / sprinklers.
Suitable for	**Premium compound fertilizer, without added chloride.** Suitable for vegetables, ornamental plants, orchards and crops that are sensitive to chloride and salt.
Comments	All Koren products can be combined with a mix of microelements (Sheffa/Micro, +3/+6). For more details, please refer to page 26.

List of leading compounds, with an option of production of tailor-made compounds. Contact us for additional details and consult.

		Liter of fertilizer per unit									
Description	NPK ratio	N	P_2O_5	K_2O	Density 25°C (±0.03)	Crystallization [°C]	pH (±1)	N-NH_4 % Ammoniacal Nitrogen	N-NH_2 % Amide Nitrogen	N-NO_3 % Nitrate Nitrogen	Application Season
Koren Sheffa 7-3-7+3	1-0.4-1	12.3	28.7	12.3	1.16	10	4.4	2.8	0.0	4.2	Summer
Koren Sheffa 5-3-8+3	1-0.6-1.6	16.9	28.2	10.6	1.18	13	4.0	1.7	0.0	3.3	Summer
Koren Sheffa 5-3-8+6	1-0.6-1.6	16.9	28.2	10.6	1.18	9	3.5	1.7	0.0	3.3	Summer
Koren Sheffa 5-1-8+6	1-0.2-1.6	17.2	86.2	10.8	1.16	5	5.1	1.5	0.0	3.5	Multi-seasonal
Koren Sheffa 4-2-6+3	1-0.5-1.5	21.7	43.5	14.5	1.15	5	4.0	1.1	0.0	2.9	Multi-seasonal
Koren Sheffa 5-1-8+3+0.5Mg	1-1-1.6	16.9	84.7	10.6	1.18	7	3.5	1.3	0.0	3.7	Multi-seasonal
Koren Sheffa 6-6-6+3	1-1-1	14.1	14.1	14.1	1.19	7	3.7	2.7	0.0	3.3	Multi-seasonal

Rom CHLORIDE FREE

Elements Source	Ammonium nitrate, MKP (monopotassium phosphate), potassium nitrate, magnesium nitrate, calcium nitrate.
Corrosivity	Some of the compositions damage metals.
Storage	In containers made of high-density polyethylene only. For more details, please see page 24.
Packaging unit	IBC 1,000L / 10L Container. We recommend consulting with the company's agronomist.
Storage Conditions	Crystals may form during storage at low temperatures. This phenomenon does not affect product quality – the crystals dissolve in water.
Application	In the irrigation system / dripper / sprinklers.
Suitable for	**Premium compound fertilizer, enriched with calcium and magnesium, chloride-free.** Suitable for all crops, especially for vegetables, crops irrigated with desalinated water, chloride-sensitive crops, and soilless growing media.
Comments	All Rom products can be combined with mix of microelements (Sheffa/Micro, +3/+6). For more details, please refer to page 26.

List of leading compounds, with an option of production of tailor-made compounds. Contact us for additional details and consult.

		Liter of fertilizer per unit									
Description	**NPK ratio**	**N**	**P_2O_5**	**K_2O**	**Density 25°C (±0.03)**	**Crystallization [°C]**	**pH (±1)**	**N-NH_4 % Ammoniacal Nitrogen**	**N-NH_2 % Amide Nitrogen**	**N-NO_3 % Nitrate Nitrogen**	**Application Season**
Rom Micro 4-2.5-6+3+0.5Mg+2Ca	1-0.6-1.5	20.5	32.8	13.7	1.22	6	2.0	0.2	0.0	3.8	Multi-seasonal
Rom Micro 4-2.5-6+3 +0.5Mg+2Ca+300Mn	1-0.6-1.5	20.5	32.8	13.7	1.24	6	2.0	0.5	0.0	3.5	Multi-seasonal
Rom Micro 4-2-8+3+0.5Mg+2Ca	1-0.5-2	20.3	40.7	10.2	1.23	8	2.0	0.1	0.0	3.9	Multi-seasonal
Rom Micro 4-2-6+6+1Mg+1.5Ca	1-0.5-1.5	20.5	40.6	13.5	1.23	9	2.0	0.1	0.0	3.9	Summer

Singles | Liquid

Storage	In containers made of high-density polyethylene only. For more details, please see page 24.
Packaging unit	IBC 1,000L.
Application	In the irrigation system / dripper / sprinklers.
Comments	May be combined with mix of microelements (Sheffa/Micro, +3/+6). For more details, please refer to page 26.

		Liter of fertilizer per unit									
Description	**NPK ratio**	**N**	**P_2O_5**	**K_2O**	**Density 25°C (±0.03)**	**Crystallization [°C]**	**pH (±1)**	**N-NH_4 % Ammoniacal Nitrogen**	**N-NH_2 % Amide Nitrogen**	**N-NO_3 % Nitrate Nitrogen**	**Application Season**
Uran 32%	32-0-0	2.4	0.0	0.0	1.32	0	7.5	8.0	16.0	8.0	Multi-seasonal
Ammonium nitrate 18%	18-0-0	4.4	0.0	0.0	1.25	0	5.5	9.0	0.0	9.0	Multi-seasonal
Ammonium nitrate 21%	21-0-0	3.7	0.0	0.0	1.28	7	6.6	10.5	0.0	10.5	Multi-seasonal

Instructions for proper use of fertilizer

Fertilizer is a liquid or solid mixture of several chemical elements. The different types of fertilizers have unique properties that vary depending on their components and ambient temperature. At low temperatures, crystallization may occur in certain types of fertilizers, to the point of blocking the exit from the fertilizer tank and stopping the fertilization process in the field.

When placing the order, ensure that the fertilizer is resistant to ambient temperatures in the designated season.
We at Sheffa adapt our products to the seasons, in order to ensure that no crystallization occurs and fertilization will be possible even in the cold season. Generally, a fertilizer that has crystallized can be dissolved using a stream of water that raises the temperature and dissolves the crystallization.

Do not try to dissolve crystallized fertilizer with any chemical in order to prevent an undesirable chemical reaction.
When applying and using the fertilizer, use rubber gloves and safety goggles.

Storage of **liquid** fertilizer

- Liquid fertilizer should be stored in black polyethylene containers.
- Make sure that the container is properly sealed and closed with a lid.
- We recommend replacing the transparent measuring tube in the tank once a year, in order to prevent the leakage of fertilizer due to potential cracking.
- In the winter season, due to temperatures dropping, the fertilizer left in the tank should be diluted at a ratio of 20% with increase in the fertilizer dose accordingly.

Storage of **solid** fertilizer

- Solid fertilizer should be stored in a dry and shady place, preferably on pallets.
- Do not mix two types of fertilizer on one surface in order to avoid a chemical reaction.
- Solid fertilizer tends to absorb moisture and crystallize after being placed in storage for a long time, therefore it is recommended to use the fertilizer as close as possible to the time of its supply.

Calculation of element contents in the fertilizer

The contents of nitrogen (N), phosphorus (P) and potassium (K) elements in the fertilizer are expressed as a percentage of the weight in the following way:
N-P_2O_5-K_2O. Nitrogen appears as a pure element while phosphorus and potassium as oxides.

Examples of calculation

Calculation of the amount of **solid fertilizer** per unit

Divide the desired amount of nutrition in its content in the fertilizer.

For example - in order to apply 1kg of nitrogen with fertilization:

1 / 46% = 2.17

- 1 — Amount of units
- 46% — Nitrogen concentration in the fertilizer
- 2.17 — Kg is equivalent per unit of Nitrogen

Calculation of **liquid fertilizer** dose

The desired nutrient amount divided in it's content in the fertilizer and its specific gravity to CC.

For example - The "Shean 6-1-9" fertilizer has a specific gravity of 1.17g/cc:

1 / 6% / 1.17 = 14.24

- 1 — Amount of units
- 6% — Nitrogen concentration in the fertilizer
- 1.17 — Density
- 14.24 — Amount of liters needed in order to obtain a unit of pure nitrogen

Various configurations of nitrogen in the fertilizer

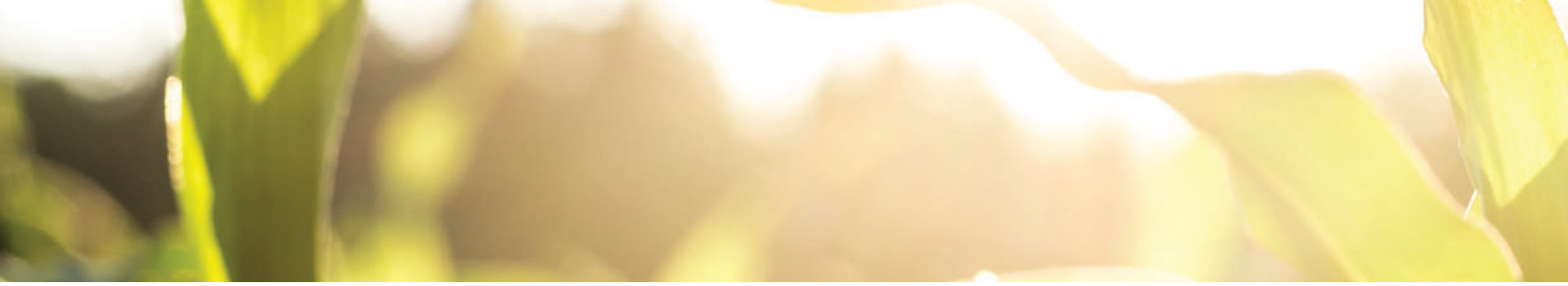
The different fertilizer lines are usually characterized by the nitrogen configuration in their composition.

For example: The "Galil" line is composed of nitrogen based on ammoniacal nitrogen (50% ammonia, 50% nitrate).
The "Shean" line is composed of nitrogen based on UAN (50% ammoniacal nitrogen, 50% urea).

This characterization takes place since while potassium and phosphorus tend to be absorbed into the soil, and therefore their movement is limited and they remain available to the plant in the root layer, nitrogen may change its configuration at any time and may be washed away and evaporate quickly.

Different plant groups have different preferences for the appropriate nitrogen configuration for them.
It is therefore necessary to adjust the nitrogen configuration to the plant, to the environmental and cultivation conditions, and especially to the type of soil.

It is important to recognize that of all the existing nitrogen configurations, **NH_4+** and **NO_3-** nitrate are the only configurations available to the plant.
The additional nitrogen configurations must undergo biochemical processes in the soil, ammonification and nitrification, and turn to ammonia and nitrate in order to allow their absorption into the plant.



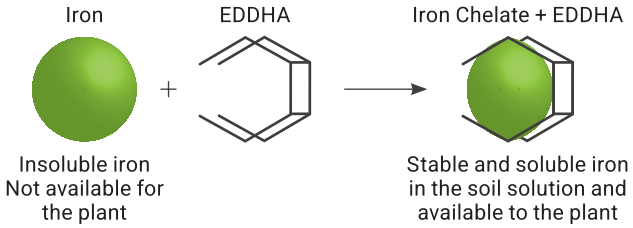
Supplemental Microelements In Fertilizer

Microelements are nutrients that the plant needs in relatively small amounts, but they have a crucial importance for proper and vital growth. Alkaline soils (pH ±8) may contain high concentrations of limestone and clay. This makes it very difficult for the plant to absorb microelements efficiently, and therefore it is important to nourish the plant with microelements which are bound to "chelate".

The chelate is a negatively charged "pincer" molecule that surrounds the mineral and neutralizes its charge. By doing that, it prevents the mineral's absorption into the soil, and the mineral remains soluble in the soil solution and available to the plant. When the mineral complex attached to chelate reaches the root surface, the root breaks down the mineral from the chelate and absorbs only the essential mineral.

Different types of chelates have stability ranges that vary in interactions with the elements, and therefore it is important to adjust the type of chelate to the type of soil or substrate.

An example of EDDHA Iron chelate



Microelement supplements from two series can be added to all types of fertilizers

- **"Micro" supplement -** all chelates are EDTA. Suitable for hydroponics, soilless cultures and acidic soils.
- **"Sheffa" supplement -** most chelates are EDTA, besides iron chelate which is EDDHSA. Suitable for relatively alkaline soils and all substrates.

These supplements come in two regular concentrations

	Iron (Fe)	Manganese (Mn)	Zinc (Zn)	Copper (Cu)	Molybdenum (Mo)
+3	300ppm	150ppm	75ppm	18ppm	8ppm
+6	600ppm	300ppm	150ppm	36ppm	16ppm

* Additional ratios can be created as needed. ** A single microelement can be added to the fertilizer as needed.

- **Iron supplements -** recommendations for fertilizing with iron are usually given in Kg per dunam, and are based on solid products that contain 6% chelated iron. That is, when we apply 1 kg of solid iron per hectare, we can actually give 60 grams of chelated iron per hectare. 1 Kg × 6% (0.06) = 60 Grams.
- **"Kinneret Iron" -** by 'Sheffa' is a liquid fertilizer that contains 3.2% chelated iron (42 grams per liter).

In order to fertilize amount equivalent to 1 kg of solid iron (6%), apply 1.4 L of "Kinneret Iron".

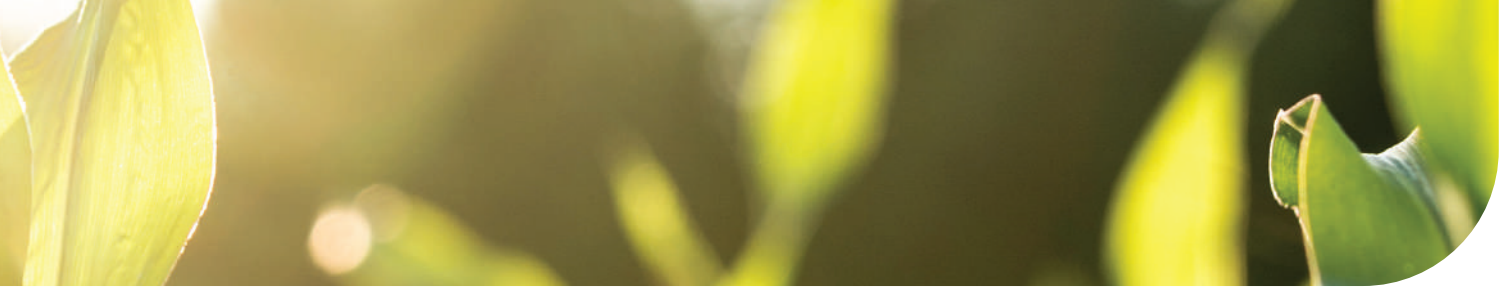
Example of calculation A farmer wants to apply 2 kg of iron 6% per hectare, to a total area of 1.5 hectares.

Calculation 1.5 hectares × 2.8 liters "Kinneret Iron" = 42 liters of "Kinneret Iron".

Liters per hectare, area in hectare, recommended application, amount of liquid iron required is equivalent to 1 Kg of solid iron.

$$1.4 \times 2 \times 1.5 = 42$$

- 1.4: The required amount of liquid iron is equivalent to the amount of solid iron (6%) in kilograms.
- 2: Application recommendation
- 1.5: Plot size in hectare
- 42: Liter Iron Kinneret



Nutrient Deficiencies In The Plant

Calcium

Browning and curling at the edges of young crop, along with a general decrease in the growth rate of the plant.

Recommendation for correction of the deficiency: Add **"Kinneret Calcium"** to fertilization regimen.

Iron

General yellowing of the leaf which will appear in a young plant, while the transport tubes of the leaf remain green.

Recommendation for correction of the deficiency: Add **"Kinneret Iron"** to fertilization regimen.

Salinization Damage

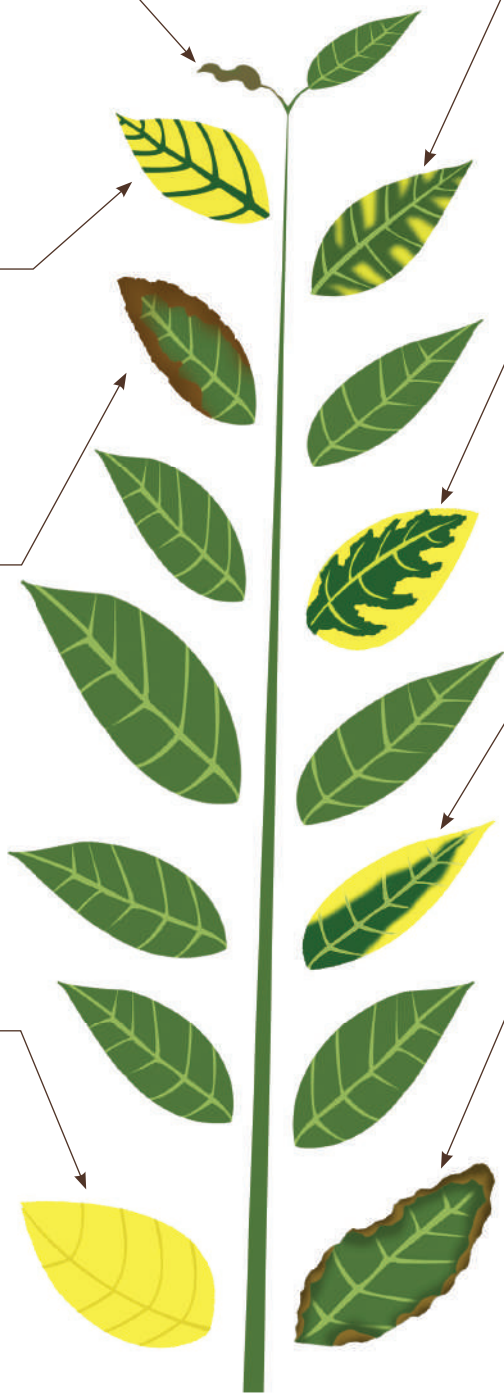
Appearance of burns ("necrosis") at the edges of the leaf which will spread to its center until the leaf is completely burned.

Recommendation for correction of the damage: Rinse the soil. When initial burns appear at the tip of the leaf, we recommend contacting an agronomist for professional support and advice.

Nitrogen

A gradual yellowing of the leaves which will appear at the bottom, in the mature part of the plant. In severe deficiencies the yellowing will spread to all parts of the plant.

Recommendation for correction of the deficiency: Increasing the nitrogen fertilizer ratio. We recommend contacting an agronomist for professional support and advice.



Manganese

Appearance of light green to yellow spots between the transport tubes of the leaf in a young plant. In severe deficiencies, the spots will spread towards the mature leaves until general yellowing of the plant.

Recommendation for correction of the deficiency: Add **"Kinneret Manganese"** to fertilization regimen.

Zinc

Yellowing in the transport tubes of the leaf, which will appear in a young plant and will spread to the entire leaf along with yellowing in the margins. Sometimes purple spots will also appear on the leaf.

Recommendation for correction of the deficiency: Add **"Kinneret Zinc"** to fertilization regimen.

Magnesium

Yellowing at the margins of the leaf in mature plant, while its center remains green.

Recommendation for correction of the deficiency: Add **"Kinneret Magnesium"** to fertilization regimen.

Potassium

The appearance of scorching marks on the edges of the mature leaves, along with the curling of the edges towards the inside of the leaf.

Recommendation for correction of the deficiency: Increasing the potassium fertilizer ratio. We recommend contacting an agronomist for professional support and advice.

Illustration: Einav Mutzaffi

Professional services of agronomists

The Company's agronomists specialize in the field of mineral nutrition of the plant, and are ready to assist our customers at all times. The professional team offers a variety of quality support and consulting services on the subjects of irrigation control and fertilization.

Our services include, among others

New Service!

Innovative leaf tests that examine the plant sap and the mineral supply available to it at a given time, in order to perform biological operations. These tests are an **innovative tool for monitoring and correcting feeding problems efficiently and quickly.**

New Service!

Monitoring the quality of the fertilizer application in the plot.

* Details below

Fertilization plans tailored to the needs of the farmer and the specific needs of the crop.

Irrigation control - use of advanced equipment that includes tensiometers, volumetric moisture meters and soil temperatures for the purpose of understanding the water behavior in the plot and adjusting the method of irrigation accordingly.

Using a multicopter to photograph and monitor designated problems in the growing plot, such as deficiencies, drainage problems, diseases, salinization damage, etc., which are sometimes difficult to see from the ground.

Assistance in sampling leaves / water / soil in outdoor laboratories and interpreting the results.

New Service!

Dynamic Protocol – A Unique Guidance Service
A specialized support service focused on soil and plant health, integrating technological innovation with advanced management practices. This dynamic protocol is designed to achieve optimal crop results, enhance plant health, nurture the growing environment, and improve the soil's natural fertility.

Fertilization control - use of advanced equipment that includes soil solution resources and content sensors for various nutrient elements, EC and pH meters that allow monitoring of the availability of nutrient elements in the soil and prevention of salinization damages.

* Monitoring the quality of the fertilizer application in the plot

Sometimes, a significant deviation occurs between the desired application settings in the field, which are defined in the computerized irrigation system, and the amount actually applied in each plot. In order to avoid these significant deviations, we have developed a unique work method: in coordination with the farmer, we choose a plot to be examined for deviation, in which we sample the dripping water coming out at different points in the plot. Using nutrient content sensors, two main parameters are examined:

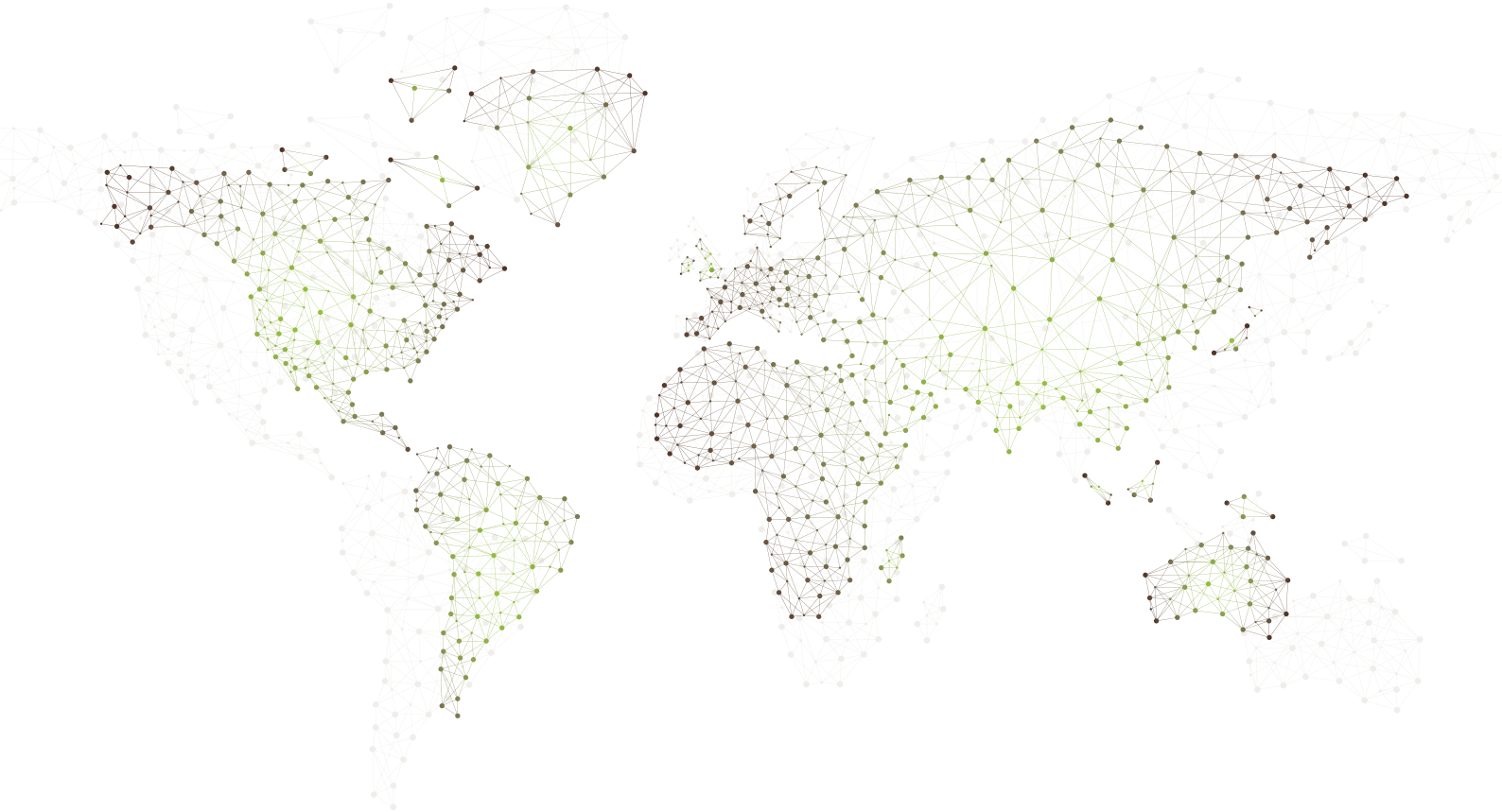
A. Uniformity of the fertilizer distribution in the plot.

B. Concentrations of nutrient elements coming out of the drips.

In case a deviation is spotted, a number of relatively simple steps must be taken in order to correct it, and thus it will be possible to ensure the accuracy of the fertilization and its even distribution. This service is both agriculturally and economically efficient.

Contact Us

For more information, professional consulting and guidance. We hope to have the pleasure of doing business with you.



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SHEFFA
Plant Nutrition & Environmental Health

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SHEFFA

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