



Knowledge grows

# Speciality Product Range





Crop Knowledge -  
Product Combinations -  
In-field Expertise



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# Horticulture - Open Field Crops



## Horticulture – Open Field

Product Name	Analysis	Description	Pack
YaraMila™ Complex™	12:11:18 SOP + Mg +B + Mn + Fe + Zn	Field grade NPK compound fertilizer. SOP based with sulphur, magnesium, boron, manganese, iron & zinc.	600kg 25kg
YaraMila™ Grower™	15:9:20 + S + Mg + B + Mn + Zn	Field grade NPK compound fertilizer 35% SOP based with sulphur, magnesium, boron, manganese & zinc.	600kg
YaraLiva™ Tropicote™	15.5% N 26% CaO	Calcium Nitrate Field Grade	600kg 25kg
YaraLiva™ NitraBor™	15.4% N 25.9% CaO 0.3% B	Calcium Nitrate plus Boron	600kg 25kg
Starter Solution Plus	11:38:3 + trace elements (w/v)	Chafer Liquid Starter Solution	Bulk
T-Flow Top	24:0:0 + 17% CaO (w/v)	Chafer Liquid Nitrogen & Calcium	Bulk
T-Flow Express	16:0:11 + 21.6% CaO (w/v)	Chafer Liquid Nitrogen, Calcium & Potassium	Bulk
Unika Kali	13:0:45	Field grade potassium nitrate.	600kg
SOP - G	0:0:51 +18% S	Granular Sulphate of Potash.	600kg 25kg

# Horticulture – Fertigation, Hydroponic, Trickle Irrigation



## Horticulture – Glasshouse

Product Name	Analysis	Description	Pack
Calcinit™	15.5% N 26% CaO	Calcium Nitrate Solution Grade Calcium Nitrate Glasshouse Grade	25kg
Krista-K Plus™	13.7% N 46.3% K <sub>2</sub> O	Soluble grade Potassium Nitrate	25kg
Krista-MKP™	0:52:34	Soluble grade Mono Potassium Phosphate	25kg
Krista-MAP™	12:61:0	Soluble grade Mono Ammonium Phosphate	25kg
Krista-MgS™	16% MgO 13% S	Soluble grade Magnesium Sulphate Epsom salts	25kg
Krista-Mag™	11% N 15% MgO	Soluble grade Magnesium Nitrate Flakes	25kg
MagNitra	7% N 10% MgO w/w	Liquid Magnesium Nitrate	27kg
Amnitra	18 % N w/w	Liquid Ammonium Nitrate	24.8kg
Calsal	8.7% N + 17.5% CaO w/w	Liquid calcium nitrate ammonia free.	1500kg
Krista-SOP	0:0:51 + 18% S	Soluble Sulphate of Potash. Potassium Sulphate	25kg
Krista-Urea	46:0:0	Soluble Prilled Urea	25kg
Krista-CaCl	28% Ca 50% Cl	Soluble Calcium Chloride	25kg
Krista-MOP	60% K <sub>2</sub> O	Soluble Potassium Chloride	25kg
Yara Soluble 21% Boron	20.8% B	Water soluble boron	25kg
Kristalon™	Red 12:12:36 Lilac Label 20:8:8 Azur 20:5:10 Green label 18:18:18 Blue Label 19:6:20 White Label 15:5:30 Yellow 13:40:13 Brown 3:11:38 Orange 6:12:36 Scarlet 7.5:12:36	Water Soluble Fertilizers plus trace elements	25kg

## High Performance Iron Chelates

Product	Description	Iron content % w/w	Pack
YaraVita Rexolin Q48	EDDHA Chelated Iron (ortho-ortho content 4.8%) Microgranular	6.0	20 x 25kg
YaraVita Rexolin Q40	EDDHA Chelated Iron (ortho-ortho content 4.0%) Microgranular	6.0	20 x 25kg
YaraVita Rexolin Q15	EDDHA Chelated Iron (ortho-ortho content 1.5%) Microgranular	7.0	20 x 25kg
YaraVita Rexolin X60	HBED Chelated Iron (ortho-ortho 6.0%) Microgranular	6.0	20 x (4x5kg)

## Iron Chelates

Product	Description	Iron content % w/w	Pack
YaraVita Rexolin D11	DTPA Chelated Iron Crystals	11.6	30 x 25kg
YaraVita Rexolin D6	DTPA Chelated Iron Liquid	6.1	1200kg
YaraVita Rexolin E13	EDTA Chelated Iron Crystals	13.3	40 x 25kg
YaraVita Rexolin E8	EDTA Chelated Iron Liquid	7.7	78 x 10 litre (13.2 kg)
YaraVita Rexolin E6	EDTA Chelated Iron Liquid	6.1	4 x 250kg

## Micronutrients Combi Chelates

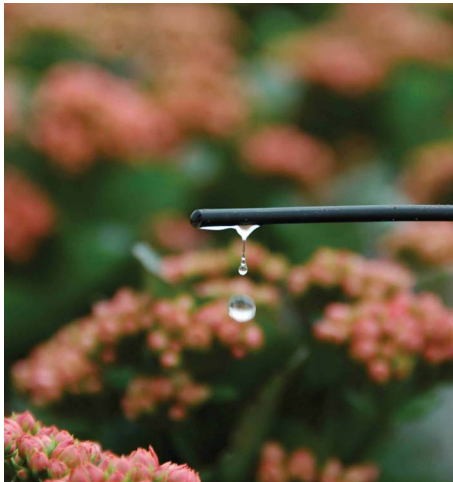
Product	Desc.	Mg % w/w	Ca	Fe	Cu	Mn	Zn	B	Mo	Co	Pack
YaraVita Rexolin BSP	EDTA Micro nutrients Micro granular			7.5	0.3	3.7	0.6	0.7 inorg	0.2 inorg		20 x 25kg
YaraVita Tenso Coctail	EDTA Micro nutrients Micro granular		2.57	3.84	0.53	2.57	0.53	0.52	0.13		20 x 25kg

*inorg = inorganic non-chelated*

Other Metal Chelates

Product	Description	Mg % w/w	Ca % w/w	Fe % w/w	Cu % w/w	Mn % w/w	Zn % w/w	Pack
YaraVita Rexolin Ca10	EDTA Chelated Calcium Microgranular		9.7					30 x 25kg
YaraVita Rexolin Cu15	EDTA Chelated Copper Microgranular				14.8			30 x 25kg
YaraVita Rexolin Cu9	EDTA Chelated Copper Liquid				9.0			1200kg
YaraVita Rexolin Mg6	EDTA Chelated Magnesium Microgranular	6.2						30 x 25kg
YaraVita Rexolin Mn13	EDTA Chelated Manganese Microgranular					12.8		30 x 25kg
YaraVita Rexolin Mn6	EDTA Chelated Manganese liquid					6.2		1200kg
YaraVita Rexolin Zn15	EDTA Chelated Zinc Microgranular						14.8	30 x 25kg
YaraVita Rexolin Zn9	EDTA Chelated Zinc Liquid						9.0	1200kg

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## Growing Media and Potting Soils



Product Name	Analysis	Description	Pack
PG Mix™	14:16:18 plus trace elements 12:14:24 plus trace elements 15:10:20 plus trace elements 15-10-20 Control 50	Starter fertilizers for compost, potting soil and peat substrate.  50% slow release N and P.	25kg

## Equine Paddocks & Pastures

Product Name	Analysis	Description	Pack
Paddock Royale™	12:11:18 SOP + Mg + B + Mn + Fe + Zn	Horse & Pony Paddock Fertiliser	25kg





## Foliar Nutrition – Agricultural & Horticultural Crops



Product Name	Analysis	Description
YaraVita	Single, Multi & Crop Specific Nutrients	Foliar Sprays & Seed Treatment

*See YaraVita Products & Services Guide or ask for details.*



# YaraLiva™

TROPICOTE™ 15.5%N + 19%Ca

## Field grade Calcium Nitrate

### Pack size

600 kgs and 25kgs

### Spreads

Accurately to 24 metres

## Benefits

### Brassica/salad

- Helps to suppress Club Root.
- Helps prevent Internal Browning.
- Helps prevent Tip Burn.
- Low scorch risk when broadcast.
- Improved marketability and shelf life.
- Rapid greening in cool conditions.

### Potato

- Helps suppress internal rust spot.
- Improve skin finish.
- Helps reduce bacterial rots in store.
- Calcium helps reduce crop stress.

### Carrot

- Helps suppress cavity spot.
- Improves skin finish.

### Top Fruit

- Helps suppress bitter pit.
- Improves stress tolerance in adverse growing conditions.
- Improves storage potential.
- Better skin finish.

## Product Specification

Total N	15.5%	Bulk density loose	1.1kg/l
Nitrate-N	14.4%	Granulometry (ISO)	90% 2-4mm
Ammoniacal-N	1.1%	Colour	white
Calcium (CaO)	26.3%		

## Recommendations

Crop	Recommendations	Timing
Brassica/salad crops	400/600 kg/ha	In base (club root) or broadcast
Potatoes	375/500 kg/ha	At tuber initiation.
Carrots	330 kg/ha	Prior to or immediately post drilling
Top fruit	250 kg/ha	Applied early spring prior to bud burst.
	100/150 kg/ha	Top up application at early fruitlet growth stage.
	100/350kg/ha	Autumn application post-harvest depending on variety.





# YaraLiva™

NITRABOR™ 15.4%N + 18.3%Ca + 0.3%B

## Field grade Calcium Nitrate plus Boron

Nitrabor™ calcium nitrate fertilizer, contains 0.3%B, in addition to the unique coating system for dry applied uses.

Used for boron demanding crops and where soils are low in Boron.

### Pack size

600 kgs and 25kgs

### Spreads

Accurately to 24 metres

## Product Specification

Total N	15.4%	Bulk density loose	1.1kg/l
Nitrate-N	14.1%	Granulometry (ISO)	90% 2-4mm
Ammoniacal-N	1.3%	Colour	yellow
Calcium (CaO)	25.9%		
Boron (B)	0.3%		

## Benefits

### Brassica/salad

- Helps prevent heart rot.
- Helps to suppress Club Root.
- Helps prevent Internal Browning.
- Helps prevent Tip Burn.
- Low scorch risk when broadcast.
- Improved marketability and shelf life.
- Rapid greening in cool conditions.

### Sugar Beet

- Helps prevent browning and heart rot
- Non acidifying effect.



## Recommendations

Crop	Recommendations	Timing
Brassica/salad crops	400/600 kg/ha	In base (club root) or broadcast
Sugar Beet	250/400 kg/ha	At 2 to 3 true leaf stage
Top Fruit	250 kg/ha	Applied early spring prior to bud burst.
	100/150 kg/ha	Top up application at early fruitlet growth stage.
	100/350kg/ha	Autumn application post-harvest depending on variety.



# YaraMila™

## COMPLEX™ 12:11:18 SOP + Mg + trace elements

Field grade NPK compound fertilizer, SOP based, with sulphur, magnesium and trace elements

### Pack size

600 kgs and 25kgs

### Spreads

Accurately to 24 metres

### Benefits

#### Brassica/salad

- All in one NPK plus magnesium plus sulphur plus trace elements.
- All applied in a single application.
- Contains magnesium, a vital element for crop growth.
- Contains sulphur in the form of sulphate of potash.
- Sulphur an important nutrient in areas of low sulphur deposition, light soils

and high rainfall where susceptible crops are grown.

- Chloride free YaraMila Complex, ideal for salt sensitive salad crops.

#### Potato

- Contains sulphur in the Sulphate of Potash form.
- SOP has been shown to increase tuber numbers and increase dry matters.
- Available will increase marketable yield and important at tuber bulking.

#### Trees

- Chloride free NPK, for use on young and established trees.
- Encourages uniform growth.
- High sulphur aids greening up in trees.
- Trace elements match crop removals.

### Product Specification

Total N	12.4%	Bulk density loose	1.14kg/l
Citrate soluble P <sub>2</sub> O <sub>5</sub>	11.5%	Granulometry (ISO)	88% 2-4mm
Total K <sub>2</sub> O	17.8%	Colour	green
Magnesium (MgO)	2.7%	Trace elements	B, Fe, Mn, Zn
Sulphur (S)	8.0%		

### Recommendations

Crop	Recommendations	Timing
Brassica	875/1250 kg/ha	As a base dressing
Salad	375/625 kg/ha	As a base dressing
Potato	1250 kg/ha	In the seedbed
<b>Trees</b>		
1 – 3 year old trees	250/400 kg/ha	Spring applied
4 year old onwards	400/600 kg/ha	Spring applied





# YaraMila™

GROWER™ 15:9:20 + S + Mg + trace elements

Field grade NPK compound fertilizer, 35% SOP 65% MOP, with Sulphur, Magnesium, Boron, Manganese and Zinc.

## Pack size

600 kg big bags

## Spreads

Accurately to 24 metres

## Benefits

### Brassica

- All in one NPK plus sulphur, magnesium and trace elements.
- All applied in a single application.
- High Potash formulation, which is 35% sulphate of potash and 65% muriate of potash based. Ideal for high K demanding crops.
- Contains sulphur in the sulphate of potash form.

- Sulphur is an important nutrient in areas of low sulphur deposition,
- light soils and high rainfall where susceptible crops are grown.
- Reduced phosphate content for high P soils.

### Potato

- Contains sulphur in the sulphate of potash form.
- SOP has been shown to increase tuber numbers and increase dry matters.
- Available polyphosphate will increase marketable yield and important at tuber bulking.



## Product Specification

Total N	15.0%	Bulk density loose	1.08kg/l
Total P <sub>2</sub> O <sub>5</sub>	9.0%	Granulometry (ISO)	85% 2-4mm
Total K <sub>2</sub> O	20%	Colour	Green
Magnesium (MgO)	1.80%	Boron (B)	0.015%
Sulphur (SO <sub>3</sub> )	9.50%	Manganese (Mn)	0.02%
		Zinc (Zn)	0.02%

## Recommendations

Crop	Recommendations	Timing
Brassica	700/960 kg/ha	As a base dressing
Potato	1000 kg/ha	In the seedbed



# UNIKA KALI™

13:0:45

## Field grade potassium nitrate

### Pack size

600kg big bags

### Benefits

- Nitrogen, 100% nitrate form, readily available for uptake by plants.
- High potassium level, which will help strengthen plant immune system.
- Chloride free.
- Increases crop yield and quality.
- Increases shelf life and flavour of vegetables.
- Non acidifying effect.
- Fully water soluble.

### Potato

- Non chloride based potassium nitrate will increase potato dry matter content.
- Precision feeding of nitrate nitrogen and fully soluble potassium to the growing potato crop.

## Product Specification

Total N	13%	Bulk density	1.22kg/l
		Granule size	2 - 3mm
Total K <sub>2</sub> O	45%	Colour	white prills

## Recommendations

Crop	Recommendations	Timing
Brassica	300 kg/ha	Top dressing
<b>Potato</b>		
Maincrop	250 kg/ha	Tuber initiation
Early	250 kg/ha	Seedbed





# SOP-G™

0:0:51 + 18%S

Field grade potassium sulphate fertilizer

## Pack size

600kg big bags

## Benefits

- For application of chloride free potassium.
- High sulphur for sulphur deficient areas, low sulphur deposition areas and high rainfall areas.

## Product Specification

Total K <sub>2</sub> O	51%	Bulk density (loose)	1.48kg/l
Sulphur S	18%	Granule size	2 - 4 chips
		Colour	white

## Recommendations

Crop	Recommendations	Timing
Potato	up to 300 kg/ha	Pre-planting



# STARTER SOLUTION PLUS™

11:38:3 + trace elements w/v

## Liquid fertilizer for placement

### Pack size

Bulk, 1000 litre non returnable IBC.

### Benefits

- Aids rapid crop establishment.
- Efficient utilization of phosphate.
- Improved phosphate availability.

## Product Specification

Total N	11%	Total Zinc	0.0024%
Total P <sub>2</sub> O <sub>5</sub>	38%	Specific gravity	1.35
Total K <sub>2</sub> O	3%	Colour	Clear solution
Total Copper Cu	0.025%		
Total Manganese Mn	0.025%		

## Recommendations

### Placement

(This must be amended according to total nitrogen requirement and fertilizer base dressing).

Crop	Recommendations	Timing
Lettuce	130 - 200 litres/application	Once at drilling or transplanting
Onions	130 - 200 litres/application	Once at drilling or transplanting
Leeks	130 - 200 litres/application	Once at drilling or transplanting
Brassicas	130 - 200 litres/application	Once at drilling or transplanting





# T-FLOW TOP™

24:0:0 + 17%CaO w/v

Liquid Nitrogen and Calcium fertilizer for Placement and Fertigation with fully available Calcium Oxide

## Pack size

Bulk, 1000 litre non-returnable IBC.

## Benefits of soluble calcium

### Salads

- Helps prevent Internal Browning.
- Helps prevent Tip Burn.
- Low scorch risk when broadcast.
- Improved marketability and shelf life.
- Rapid greening in cool conditions.

### Potato

- Helps suppress internal rust spot.
- Improve skin finish.
- Helps reduce bacterial rots in store.
- Calcium helps reduce crop stress.

### Fertigation

(This must be amended according to total nitrogen requirement and fertilizer base dressing).

## Product Specification

Total N	24%	Specific gravity	1.428
Total Calcium Oxide	17%	Colour	Clear solution

## Recommendations

Crop	Recommendations	Timing
Potato	200 litres/ha in total	Leaf development up to T1
Leeks	100 litres/ha per application	6 applications
Celery	100 litres/ha per application	6 applications
Lettuce	50 litres/ha per application	4 applications



# T-FLOW EXPRESS™

16:0:11.2 + 21.6%CaO w/v

Liquid Nitrogen, Potassium and Calcium fertilizer for Placement and Fertigation with fully available Calcium Oxide

## Pack size

Bulk, 1000 litre non returnable IBC.

## Benefits

### Potato

- Helps suppress internal rust spot.
- Improve skin finish.
- Helps reduce bacterial rots in store.
- Calcium helps reduce crop stress.
- Soluble potash for tuber development and bulking.

### Fertigation

(This must be amended according to total nitrogen requirement and fertilizer base dressing).

## Product Specification

Total N	16%	Specific gravity	1.61
Total Potassium Oxide	11.2%	Colour	Clear solution
Total Calcium Oxide	21.6%		

## Recommendations

Crop	Recommendations	Timing
Potato	400 litres/ha in total	Tuber development
	200 litres/ha in total	Bulking





# MAGNITRA™ L

7:0:0 + 10%MgO w/w

## Liquid Magnesium Nitrate

### Pack size

20 litre cans ( 27 kg ) / 36 x 20 litre per pallet ( 972 kg )

### Benefits

Magnitra L is a liquid nitrogen and magnesium fertilizer. Magnitra L is suited to application through all fertigation systems – hydroponics, drip systems, low throw sprinklers, centre pivots and spray units.

#### Nitrate nitrogen

- Directly available for plant uptake, resulting in fast and predictable growth responses.
- None volatile nor adsorbed to soil particles, leaving it readily available to plants.
- The preferred nitrogen source for most horticultural and high value agricultural crops.
- Improves the plant uptake of the cations magnesium, potassium and calcium.

#### Magnesium essential for:

- Cation balance – high potassium levels in the plant or soil will reduce the efficiency of magnesium, reducing crop yields and quality.
- Other cations such as ammonium, calcium, hydrogen (low pH) and aluminium can also reduce the availability of magnesium.
- Photosynthesis – magnesium is a major component of chlorophyll, which is essential for photosynthesis.

#### Ammonia free

Magnesium nitrate is ideally suited for applications in hydroponics as it is free of ammonium.

#### Compatibility

Magnesium nitrate can be mixed with all water soluble fertilizers, except concentrated phosphate solutions.

## Product Specification

Total N	7%	Density (20°C)	1.35kg/l
Nitrate N	7%	pH (1% solution)	3.5
Magnesium Oxide	10%		

## Recommendations

Crop	Recommendation
Most crops	0.2g per litre during the growing season



# AMNITRA™ L

18:0:0 w/w

## Liquid Ammonium Nitrate

### Pack size

20 litre cans ( 24,8 kg )

36 x 20 litre per pallet ( 893 kg )

### Benefits

- Amnitra L is a liquid nitrogen fertilizer. Amnitra L is suited to application through all fertigation drip systems.
- Safe to handle, non hazardous liquid ammonium nitrate.

### Compatibility

Can be used in combination with Calcinit, Magnitra L / Krista-Mag.

## Product Specification

Total N w/w	18%	Density (20°C)	1.24kg/l
Nitrate N	9%		
Ammonium N	9%		

## Recommendations

Crop	Recommendation
Most crops	0.4g per litre during the growing season



# CALSAL™

8.7%N + 17.5%CaO w/w

## Liquid Calcium Nitrate

### Pack size

Bulk, 1000 litre non-returnable IBC.

### Benefits

- Calsal is a liquid calcium nitrate fertilizer suited to application through all fertigation systems.
- All nitrogen in the nitrate form.
- Less than 0.002%  $\text{NH}_4\text{-N}$

### Compatibility

Calsal can be mixed with all water soluble fertilizers except stock solutions containing either sulphate or phosphate.

## Product Specification

Total N w/w	8.7%
Nitrate N	8.7%
Density (20°C)	1.50kg/l

## Recommendations

Crop	Recommendation
Most crops	0.3g per litre during the growing season





# YARA 21% SOLUBLE BORON

21% B

## Soluble grade Boron

**Pack size**  
25 kg

## Benefits

- Fully soluble boron suitable for fertigation.
- Ideal for crops sensitive to boron deficiency.
- Crops sensitive to B-deficiency: brassicas, apple, carrot, celery, carnation, chrysanthemum.

## Guidelines for application

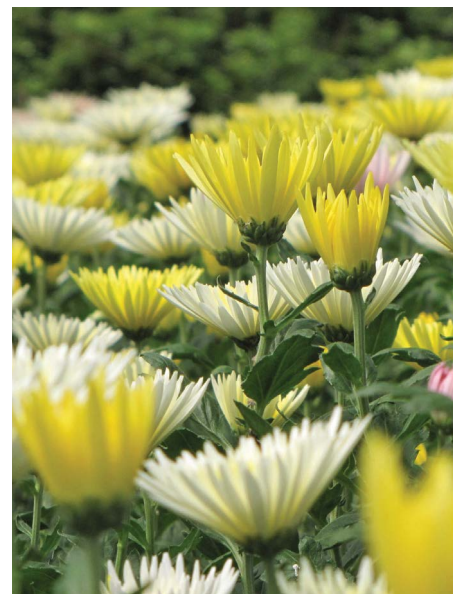
### Fertigation:

All Crops: 0.2 kg/ha at 14 to 21 day intervals, repeated as required throughout the growing cycle.

Water rate: Standard grower practice (1000 l/ha minimum).

## Product Specification

Boron - B	20.8% (20.5% min)	Solubility (20°C)	970 g/l
pH (5% solution)	8	Appearance	White powder



# YaraLiva™

CALCINIT™ 15.5%N + 19%Ca

## Soluble Grade Calcium Nitrate

**Pack size**  
25kgs bags.

### Benefits

CalciNit is a fully water soluble nitrogen and calcium fertilizer. It is a free flowing, fine granular material which dissolves quickly in water without any residues. CalciNit is suited to application through all fertigation systems – drip systems, low throw sprinklers, centre pivots and spray units.

#### Nitrate nitrogen

- Directly available for plant uptake, resulting in fast and predictable growth responses.
- None volatile nor adsorbed to soil particles, leaving it readily available to plants.
- The preferred nitrogen source for most horticultural and high value agricultural crops.
- Improves the plant uptake of the cations potassium, calcium and magnesium.

#### Calcium improves;

- Cell wall strength, leading to better quality, shelf life and lifting marketable crop yields.
- Cell wall strength, helping plants tolerate disease and insect infection.
- Soil structure, helping to maintain an optimum root environment for high yielding crops.

#### Compatibility

CalciNit can be mixed with all water soluble fertilizers, except stock solutions containing either phosphate or sulphate.

#### High purity

CalciNit is free of chlorine, sodium and heavy metals.

#### Guidelines for application

Crop specific recipes for 2 tank "A & B tank" systems available from your local advisor.



## Product Specification

Total N	15.5%	Solubility (20°C)	1200g/l water
Nitrate N	14.4%	EC (1g/l at 25°C)	1.2mS/cm
Ammoniacal N	1.1%	pH (10% solution)	6.0
Calcium CaO	26.3%	Colour	white



# KRISTA™ -K PLUS

13.7:0:46.3

## Soluble grade Potassium Nitrate

**Pack size**  
25kgs bags.

### Benefits

**Krista K** is a fully water soluble nitrogen and potassium fertilizer. It is a free flowing, fine crystalline powder which dissolves quickly in water without any residues. Krista K is suited to application through all fertigation systems – drip systems, low throw sprinklers, centre pivots and spray units.

#### Nitrate nitrogen

- Directly available for plant uptake, resulting in fast and predictable growth responses.
- None volatile nor adsorbed to soil particles, leaving it readily available to plants.
- The preferred nitrogen source for most horticultural and high value agricultural crops.
- Improves the plant uptake of the cations potassium, calcium and magnesium.

### Product Specification

Nitrate N	13.7%	Solubility (20°C)	316g/l water
Potassium K <sub>2</sub> O	46.3%	EC (1g/l at 25°C)	1.3mS/cm
Potassium K	38.4%	pH (10% solution)	8 - 9

#### Potassium improves;

- The efficiency of other nutrients, lifting crop yields.
- Fruit shape, colour and sugar content and therefore essential for crop quality.
- Water use efficiency helping control water loss in hot weather and improves tolerance to cold eg frosts, and so essential to stress tolerance.
- Cell wall strength, helping plants tolerate disease and insect infection.

#### Low N:K ratio

Krista K has a low N : K ratio of 1 : 3 making it ideal for use during flower and fruit production.

#### Compatibility

Krista K can be mixed with all water soluble fertilizers.

#### High purity

Krista K is free of chlorine, sodium and heavy metals.

**Guidelines for application** - Crop specific recipes for 2 tank "A & B tank" systems available from your local advisor





# KRISTA™ MAG

11:0:0 + 15%MgO

## Soluble grade Magnesium Nitrate

**Pack size**  
25kgs bags.

### Benefits

**Krista-Mag** is a fully water soluble nitrogen and magnesium fertilizer. It is a free flowing, fine crystalline powder which dissolves quickly in water without any residues. Krista-Mag is suited to application through all fertigation systems – hydroponics, drip systems, low throw sprinklers, centre pivots and spray units.

#### Nitrate nitrogen

- Directly available for plant uptake, resulting in fast and predictable growth responses.
- None volatile nor adsorbed to soil particles, leaving it readily available to plants.
- The preferred nitrogen source for most horticultural and high value agricultural crops.
- Improves the plant uptake of the cations magnesium, potassium and calcium.

#### Magnesium

Cation balance – high potassium levels in the plant or soil will reduce essential for the efficiency of magnesium, reducing crop yields and quality. Other cations such as ammonium, calcium, hydrogen (low pH) and aluminium can also reduce the availability of magnesium. Photosynthesis – magnesium is a major component of chlorophyll, which is essential for photosynthesis.

#### Ammonia free

Magnesium nitrate is ideally suited for applications in hydroponics as it is free of ammonium.

#### Compatibility

Magnesium nitrate can be mixed with all water soluble fertilizers, except concentrated phosphate solutions.

#### High purity

Magnesium nitrate is free of chlorine, sodium and heavy metals.

#### Guidelines for application

Crop specific recipes for 2 tank "A & B tank" systems available from your local advisor.



## Product Specification

Nitrate N	11%	Solubility (20°C)	700g/l water
Magnesium MgO	15%	EC (1g/l at 25°C)	0.88mS/cm
Magnesium Mg	9%	pH (10% solution)	6.5



# KRISTA™ MAP

12:61:0

## Soluble grade mono ammonium phosphate

### Pack size

25kgs bags.

### Benefits

**Krista-MAP** is a fully water soluble nitrogen and phosphorus fertilizer. It is a free flowing, fine crystalline powder which dissolves quickly in water without any residues. Krista-MAP is suited to application through all fertigation systems – hydroponics, drip systems, low throw sprinklers, centre pivots and spray units.

### Phosphorus

Root development – high phosphorus levels in the soil at planting or transplanting will improve crop establishment and development.

### Hydroponics

Krista-MAP is ideally suited for applications in hydroponics. Because it contains ammonium nitrogen, it is advisable to restrict its applications to one tenth of the total nitrogen in the formulation.

### Compatibility

Krista-MAP can be mixed with all water soluble fertilizers, except soluble calcium fertilizers, and concentrated magnesium solutions.

### High purity

MAP tech grade is free of chlorine, sodium and heavy metals.

### pH buffer

The phosphorus component in MAP tech grade buffers fertigation solutions, keeping the pH stable at around 4.5.

### Guidelines for application

Crop specific recipes for 2 tank "A & B tank" systems available from your local advisor.



## Product Specification

Ammoniacal N	12%	Solubility (20°C)	700g/l water
Phosphate P <sub>2</sub> O <sub>5</sub>	61%	EC (1g/l at 25°C)	0.88mS/cm
Phosphate P	26.6%	pH (10% solution)	6.5



# KRISTA™ MgS

16%MgO + 13%S

## Soluble grade magnesium sulphate

### Pack size

25kgs bags.

### Benefits

**Krista-MgS** is a fully water soluble sulphur and magnesium fertilizer. It is a free flowing, fine crystalline powder which dissolves quickly in water without any residues.

Krista-MgS is suited to application through all fertigation systems - hydroponics, drip systems, low throw sprinklers, centre pivots and spray units.

### Magnesium

Cation balance - high potassium levels in the plant or soil will reduce **essential for**; the efficiency of magnesium, reducing crop yields and quality. Other cations such as ammonium, calcium, hydrogen (low pH) and aluminium can also reduce the availability of magnesium.

**Photosynthesis** – magnesium is a major component of chlorophyll, which is essential for photosynthesis.

### Compatibility

Krista-MgS can be mixed with all water soluble fertilizers except soluble calcium fertilizers.

### High purity

Krista-MgS is free of chlorine, sodium and heavy metals.

### Guidelines for application

Crop specific recipes for 2 tank "A & B tank" systems available from your local advisor.



## Product Specification

Magnesium MgO	16%	Solubility (20°C)	750g/l water
Magnesium Mg	9.6%	EC (1g/l at 25°C)	0.7mS/cm
Sulphur S	13%	pH (1% solution)	6.6





# KRISTA™ MKP

0:52:34

## Soluble grade mono potassium phosphate

### Pack size

25kgs bags.

### Benefits

**Krista-MKP** is a clean, fully water soluble phosphorus and potassium fertilizer making it particularly suited to a wide range of horticultural crops. It is a free flowing, fine crystalline powder which dissolves quickly in water. Krista-MKP is suited to application through all fertigation systems - hydroponics, drip systems, low throw sprinklers, centre pivots, spray units, misters

### Nitrogen free

Krista-MKP contains no nitrogen, making it an ideal source of phosphorus and potassium for late applications to fruiting plants when nitrogen applications need to be controlled. Krista-MKP is also an ideal source to use in conjunction with nitrogen fertilizers such as calcium nitrate (in separate stock tanks), or potassium nitrate, ammonium nitrate or Urea.

### Ammonia free

Krista-MKP is ideally suited for applications in hydroponics as it is free of ammonium.

### Compatibility

Krista-MKP can be mixed with all water soluble fertilizers, except soluble calcium fertilizers, and concentrated magnesium solutions.

### Disease

Foliar applications of Krista-MKP may help suppress leaf diseases such as powdery mildew, when infection pressure is low.

### High purity

Krista-MKP is free of chlorine, sodium and heavy metals.

### Low EC

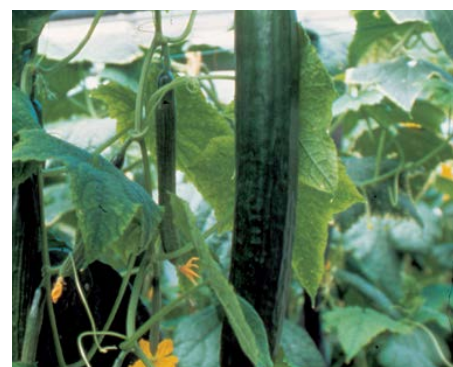
Krista-MKP in solution has a low EC at 0.7 mS/cm. This means it is a relatively safe fertilizer to use for foliar application as the risk of burning or scorching foliage is minimal.

### pH buffer

The phosphorus component in Krista-MKP buffers fertigation solutions, keeping the pH stable at around 4.5. Krista-MKP also buffers chemical solutions, increasing the effectiveness of pesticide sprays.

### Guidelines for application

Crop specific recipes for 2 tank "A & B tank" systems available from your local advisor.



Product produced by NU3

## Product Specification

Phosphate P <sub>2</sub> O <sub>5</sub>	52%	Solubility (20°C)	230g/l water
Phosphate P	22.7%	EC (1g/l at 25°C)	0.7mS/cm
Potassium K <sub>2</sub> O	34%	pH (1% solution)	4.5
Potassium K	28.2%		

# KRISTA™ UP

18:44:0

## Soluble grade Urea Phosphate

**Pack size**  
25kgs bags.

### Benefits

- **Krista-UP** has the highest solubility rate compared to other phosphate sources.
- The product dissolves very fast.
- Krista-UP is a very efficient acidifier.
- Krista-UP can reduce water hardness.
- Helps keep nozzles and dripper clean and free from clogging.
- Can be used as an alternative to acids.
- Helps to increase the availability of micronutrients in high pH conditions.
- Reduced N volatilization with use of Krista-UP urea phosphate.

### Guidelines for application

In fertigation 0,01 – 0,05% (0,1 – 0,5 kg UP per 1.000 litre), depending on the type of crop, estimated yield and the need for P.

As a foliar applied product 0,1 - 3% (0,1-3,0 kg UP per 100 litre) to correct N and/or P deficiency imbalance and for pH reduction of the tank mix solution. Most pesticides work better at lower pH levels. However, pH levels lower than 4 may provoke scorching.

As an acidifier and pH buffer of the fertigation solution: 0,01-0,1% or 0,1-1 kg UP per 1.000 litre, depending on the bicarbonate level and pH of the irrigation water.



### Product Specification

Total N	18%	Appearance	white crystal material
Ureic N	18%	Water insolubles	<0.2%
Phosphorus P <sub>2</sub> O <sub>5</sub>	44%	Acidity solution	2.75 (0.05%)
Phosphorus P	19%	EC (1 g/l at 25°C)	1.51 mS/cm
		Solubility	790 g/l at 10°C 960 g/l at 20°C



# KRISTA™ SOP

0:0:51%K + 18%S

Soluble grade Potassium Sulphate (sulphate of potash)

**Pack size**  
25kgs bags.

## Benefits

- **Krista-SOP** is suitable for fertigation.
- Ideal where high potassium levels are required without additional nitrogen.
- Suitable for crops with a high sulphur demand.
- Very low chloride content.
- Highly soluble, dissolves very quickly.

## Guidelines for application

For crop specific recommendations please contact Yara for details.

## Product Specification

Total K <sub>2</sub> O	51%
Total S	18%
Insolubles	0.1% maximum
Chloride	1.0% maximum
Appearance	White Crystalline Powder





# KRISTA™ MOP

0:0:60

## Soluble grade Potassium Chloride

**Pack size**  
25kgs bags.

## Benefits

**Krista-MOP** is a fully water soluble potassium chloride fertilizer. It is a free flowing, fine crystalline powder which dissolves quickly in water without any residues. Krista-MOP is suited to application through all fertigation systems – hydroponics, drip systems, low throw sprinklers, centre pivots and spray units.

## Guidelines for application

Crop specific recipes for 2 tank “A & B tank” systems available from your local advisor.

## Product Specification

Potassium Oxide K <sub>2</sub> O	60%
Potassium (K)	49.7%



# KRISTA™ CaCl

28% Calcium (Ca) + 50% Chloride (Cl)

## Soluble grade Calcium Chloride

**Pack size**  
25kgs bags.

### Benefits

A readily soluble material in the form of white hygroscopic flakes. The product is suitable as a soluble calcium source for use in hydroponics and fertigation.

### Tomatoes in rockwool

Independent trials have shown that the conductivity of the applied solution can be raised using chloride based fertilisers without any adverse effects upon crop growth, yield or fruit quality, provided that an adequate and balanced nutrient supply is maintained. This problem can be prevented by the use of pure calcium nitrate.

In the table below the conductivity of calcium chloride is detailed and will assist in any recipe adjustment.

### Product Specification

Formula -  $\text{CaCl}_2 \cdot 1.5 \text{H}_2\text{O}$   
Calcium chloride ( $\text{CaCl}_2$ ) - 77% (min.)  
Calcium (Ca) - 28%  
Chloride (Cl) - 50%  
Water of crystallisation ( $\text{H}_2\text{O}$ ) - 20%  
Sodium (Na) - 1.0% (max)  
Water insolubles - 0.20% (max)  
Magnesium (Mg) - 0.05%  
Sulphate - 0.1% (max)  
Iron (Fe) - 0.003% (max)  
Solubility - 977 g/l at 0°C  
Water insolubles - 0.2% (max)  
pH of a dilute solution - 9.0 - 10.5  
Bulk density - 830 kg/m<sup>3</sup>



Strength of applied solution (g/l)	Conductivity* uS/cm at 20°C	Concentration (mg/l)		Stock solution** kg per 1000 l
		Ca	Cl	
0.1	150	28	50	10
0.2	300	56	100	20
0.3	450	84	150	30
0.4	580	112	200	40
0.5	720	140	250	50
0.75	1050	210	375	75
1.0	1400	280	500	200

\* For conductivity at 250C increase values by 10%    \*\* To obtain final strength solution dilute 1:100



# KRISTA™ UREA

46.0.0

## Soluble grade treated Urea Prills

**Pack size**  
25kgs bags.

## Benefits

**Krista-Urea** is a fully water soluble urea nitrogen fertilizer. It is a free flowing, white prills which dissolves quickly in water without any residues.

## Guidelines for application

For crop specific recommendations please contact Yara for details.

## Product Specification

Ureic-N	46%
Insolubles	0.02% m/m
Appearance/Colour	White Prills
Prill Size	1 – 3 mm
pH (10% urea solution)	10.0





# PG MIX™

## Complete Fertilizer for Peat Based Substrates

### PG Mix™ 14:16:18 + magnesium + trace elements

General purpose, high phosphate fertilizer with an excellent reputation amongst producers of potting soils and peat substrates.

### PG Mix™ 12:14:24 + magnesium + trace elements

Formulated for growing vegetables, pot plants and nursery stock where a lower overall nitrogen level and increased potassium rate are required. This is predominantly for use where higher quantities are applied (1.5 – 1.75 kg/m<sup>3</sup>)

### PG Mix™ 15:10:20 + magnesium + trace elements

Developed where lower phosphate rates are required, whilst offering the ideal balance of nitrogen : potassium and has an increased percentage of nitrogen in the nitrate form.

### PG Mix™ Control 15:10:20 + magnesium + trace elements

Specially formulated as a slow release fertilizer, with 50% of the N and P in the slower releasing form. Ideal for crops and substrates where slower release of nutrients are required. Will last up to 12 weeks.

### What does PG Mix™ do?

- PG Mix™ converts ordinary peat into a high quality potting soil.
- PG Mix™ gives added value to the potting soil industry.
- PG Mix™ removes the burden of mixing straights.
- PG Mix™ provides an even distribution of nutrients in the potting soil.
- PG Mix™ easy to handle without segregation, dust or clogging.

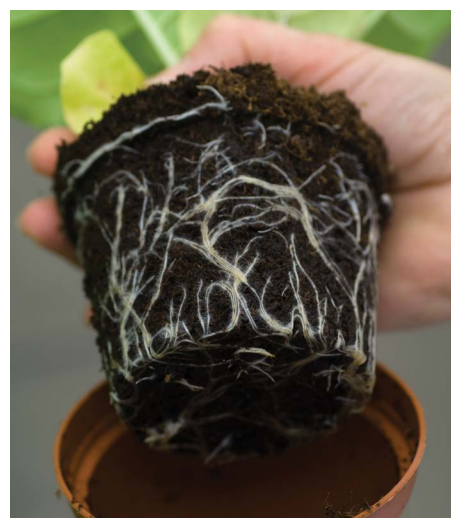
### What is PG Mix™?

PG MIX™ is:

- All-in-one powdered compound fertilizer.
- Based on raw materials of extremely high quality.
- Quality controlled/guaranteed.
- A balanced nutrient ratio.
- Extremely convenient to handle.
- Thoroughly incorporated and evenly dispersed throughout the potting soil.

### Packaging

25kg polythene, non slip bags.



## Benefits of PG Mix™

### Even distribution in potting soil

- To avoid patches with high or low nutrient contents, because this gives uneven growth and can cause salt stress.
- Becomes more important the smaller the potting compartments are (trays, cells etc.).
- As a consequence, fine particles are required.

### Dust free

- The finer the particle sizes are, the higher is the tendency for dusting.
- Dusting means hazard to workers and equipment.
- Dusting means nutrient losses.
- Dusting can cause caking and clogging.

### Non caking

- products which cake can rarely be automatically and evenly dosed to the potting soil.
- bins and hoppers can get clogged.
- uneven distribution and dosage might be the result.
- costly manual working will be required.

### Non segregating

- segregation means uneven dosage and distribution.
- this leads to uneven growth.
- and will result in low quality potting soil.
- and unsatisfied customers and claims against potting soils.

A prerequisite for satisfied potting soil customers is an even distribution of a high quality fertilizer in the potting soil.

As a prerequisite, the fertilizer must become thoroughly incorporated, therefore it has to be dust free + non segregating + non caking.

**PG Mix™ has exactly this reputation !**

## PG Mix™ Fertilizer Product Range - Specifications

Nutrient Content		PG MIX 14+16+18	PG MIX 12+14+24	PG MIX 15+10+20	PG MIX Control
		%	%	%	%
<b>Nitrogen</b>	Total N	14,0	12,0	15,0	15,0
	NH <sub>4</sub> N	8,5	5,0	6,5	1,0
	NO <sub>3</sub> N	5,5	7,0	8,5	5,4
<b>Phosphate</b>	Total P <sub>2</sub> O <sub>5</sub>	16,0	14,0	10,1	10,0
	Watersoluble P <sub>2</sub> O <sub>5</sub>	15,2	13,3	9,5	5,0
<b>Potassium</b>	Watersoluble K <sub>2</sub> O	18,0	24,0	20,0	20,0
<b>Magnesium</b>	Total MgO	0,8	2,0	3,8	3,7
<b>Boron</b>	B	0,03	0,03	0,03	0,03
<b>Copper</b>	Cu	0,15	0,15	0,15	0,15
<b>Manganese</b>	Mn	0,16	0,16	0,16	0,16
<b>Molybdenum</b>	Mo	0,20	0,20	0,20	0,20
<b>Iron</b>	Total Fe	0,09	0,09	0,09	0,09
	Chelated Fe	0,09	0,09	0,09	-
<b>Zinc</b>	Zn	0,04	0,04	0,04	0,04

## PG Mix™ Recommendations for Use

The table shows the quantities, in kg per m<sup>3</sup> peat, of the PG Mix formulations.

Crop	kg/m <sup>3</sup> substrate
<b>Vegetables</b>	
- with short raising period (lettuce, endive etc)	1.2
- with a long raising period (tomato, cucumber, pepper etc)	1.75
- Strawberries in peat bags or pots	1.75
- Sowing peat	0.5 to 0.8
<b>Floricultural Crops</b> (young crops)	
- Raising of floricultural crops	0.5
- Seed compost	0.5
- Peat for cuttings	0.5
- Cuttings of carnation, chrysanthemum, pelargonium	0.5
<b>Border Plants</b>	1.5
<b>Pot Plants</b>	
- General pot plants	1.5
- Chloroses and salt sensitive pot plants	0.8
- Chloroses and sensitive plants	1.5
- Salt sensitive pot plants	0.8
- Cymbidium and phalaenopsis	0.5
<b>Cut Flowers</b>	
- Carnation	1.5
- Anthurium	0.8
<b>Bulb Flowers</b>	
- General	0.5
- Lilium	0.8
<b>Trees and Shrubs</b>	
- General	1.0
- Cuttings	0.5
<b>Retail</b> - multi purpose potting composts	1.5

PG Mix™, should be supplemented with a magnesium containing lime, 10% MgO or more, in order to supply the essential plant nutrients, calcium and magnesium and to correct the pH of the peat to the desired level.

At approximately four to six weeks after the start of cultivation in the fertilized peat, growers should begin additional liquid feeding with Kristalon™ water soluble fertilizers.

# KRISTALON™

## Water soluble NPK fertilizers for liquid feeding

### Pack size

25kg. Polythene non slip bags.

### Benefits

- Contain a full range of chelated trace elements.
- Ideal for all irrigation systems, drip, tape, sprinkler and pivot systems.

### Product Range Composition

Kristalon™	Analysis NPK	N Total	NO <sub>3</sub>	NH <sub>4</sub>	P <sub>2</sub> O <sub>5</sub>	K <sub>2</sub> O	MgO	S	EC	Trace Element Type
Orange	6:12:36	6	4,5	1,5	12	36	3	8	1,3	3
Red	12:12:36	12	10,1	1,9	12	36	1	1	1,2	1
Yellow	13:40:13	13	4,4	8,6	40	13	-	-	1,0	1
White Label	15:5:30	15	11,3	3,7	5	30	3	2	1,3	1
Green label	18:18:18	18	9,8	8,2	18	18	-	-	0,9	2
Lilac Label	20:8:8	20	6,8	13,2	8	8	2	10	1,6	1
Blue Label	19:6:20	19	11,9	7,1	6	20	3	3	1,4	1
Azur	20:5:10	20	7,9	12,1	5	10	2	10	1,5	1
Brown	3:11:38	3	3	-	11	38	4	11	1,3	3
Chicory	15:5:30	15	11,3	3,7	5	30	3	2	1,3	5
Scarlet	7.5:12:36	7,5	7,5	-	12	36	4.5	4	1,3	6



### Trace elements in Kristalon

Micro Nutrients	B	Mo	Cu (EDTA)	Fe (EDTA)	Fe (DTPA)	Mn (EDTA)	Zn (EDTA)
Type 1	0.025	0.004	0.01	0.07	-	0.04	0.025
Type 2	0.050	0.008	0.02	0.14	-	0.08	0.050
Type 3	0.025	0.004	0.01	-	0.07	0.04	0.025
Type 4	0.025	0.004	0.01	-	-	0.04	0.025
Type 5	0.025	0.001	0.01	-	-	-	-
Type 6	0.027	0.004	0.004	0.075	0.075	0.06	0.027





## Kristalon™ Recommendations

Pot Plants	Stage	Kristalon	Analysis	Dilution
<b>Foliage Plants</b>	All season	Blue Label	19:6:20	200-100
<b>Azalea</b>	Main feed Flowering	Azur Azur	20:5:10 20:5:10	200-100 150-100
<b>Begonia</b>	Main feed Flowering	Green Label White label	18:18:18 15:5:30	200-100 150-100
<b>Poinsettia</b>	Main feed End Sept	Blue Label White Label	19:6:20 15:5:30	200-100 150-100
<b>Pot Mums &amp; Others</b>	Main feed Flowering	Blue label White Label	19:6:20 15:5:30	100 100

## Bedding Plants

Begonia, Impatiens, Geranium, Petunia, including baskets

	Stage	Kristalon	Analysis	Dilution
<b>Overwintered</b>	In Spring	Green Label	18:18:18	200-100
<b>Summer</b>		Blue Label	19:6:20	200-100

## Nursery Stock

	Stage	Kristalon	Analysis	Dilution
<b>Propagation</b>	Root Development	Green Label	18:18:18	200
<b>Open Field</b>	Low pH plants Normal pH plants	Azur Blue Label	20:5:10 19:6:20	200 200
<b>Container Plants</b>		Blue label	19:6:20	300-100

## Cut Flowers

Cut Flowers	Stage	Kristalon	Analysis	Dilution
<b>Alstromeria</b>	Main feed Flowering	Blue Label White Label	19:6:20 15:5:30	1:100 1:100
<b>Carnation/ Freesia</b>	Winter feed Summer feed	White Label Blue label	15:5:30 19:6:20	1:100 1:100
<b>Chrysanthemum - open</b>	Early feed Main feed Flowering	Azur Blue Label White Label	20:5:10 19:6:20 15:5:30	1:100 1:100 1:100
<b>- protected</b>	Early feed Main feed Flowering	Lilac Label Blue Label White Label	20:8:8 19:6:20 15:5:30	1:100 1:100 1:100
<b>Gypsophylla/ Stocks</b>	Main feed Flowering	Blue Label White Label	19:6:20 15:5:30	1:100 1:100
<b>Roses</b>	Main feed Flowering	Blue Label White Label	19:6:20 15:5:30	1:100 1:100

## Modular and Brassica Propagation

	Stage	Kristalon	Analysis	Dilution
<b>Bedding Transplants</b>	General	Green Label	18:18:18	1:200
<b>Vegetable Transplants</b>	Extra root development	Yellow	13:40:13	1:200

## Salad and Vegetable Crops

Crop		Kristalon	Analysis	Dilution
<b>Tomato / Aubergine</b>	NB	Brown Calcinit	3:11:38 15.5%N 19%Ca	1:100 1:100
<b>Cucumber/ Melon &amp; Courgette</b>	NB	Brown Calcinit	3:11:38 15.5%N 19%Ca	1:100 1:100
<b>Peppers</b>	NB	Brown Calcinit	3:11:38 15.5%N 19%Ca	1:100 1:100
<b>Celery</b>	NB	Brown Calcinit	3:11:38 15.5%N 19%Ca	1:100 1:100
<b>French Beans</b>	NB	Brown Calcinit	3:11:38 15.5%N 19%Ca	1:100 1:100

## Soft Fruit

Crop	Stage	Kristalon	Analysis	Dilution
<b>Strawberries Open field</b>	Vegetative Flowering/ fruiting	Blue Label Red	19:6:20 12:12:36	1:100 1:100
<b>Strawberries in coir</b>	Vegetative Flowering/ fruiting	Scarlet Scarlet	7.5:12:36 7.5:12:36	1:100 1:100
<b>Ca needed High K needed</b>		Calcinit Krista-K Plus	15.5N, 19Ca 13.7:0:46.3	1:100 1:100
<b>Cane Fruit</b>	Vegetative Flowering/ fruiting	Blue label Red	19:6:20 12:12:36	1:100 1:100

NB: Do not tank mix Kristalon with Calcinit. Feed Kristalon Brown and Calcinit alternately or use a two tank A-B system.

## How to mix Kristalon

In Bulk Tanks. Dissolve 1 kg Kristalon in 1,000 litres water. Or 25kg in 25,000 litres water of ready to use standard strength dilute feed.

As a Stock Solution. Dissolve 1 kg Kristalon in 10 litres water, or 25kg Kristalon in 250 litres of water. The 10% stock solution can then be diluted as required. Dilution rate is normally 1 in 100 which means 1 part stock solution in 99 parts water. See recommendations for dilution rates.

# YaraVita™

## TENSO COCKTAIL™

### Chelated trace element package for hydroponics and fertigation

**Pack size** - 5kgs. (4 x 5kg)

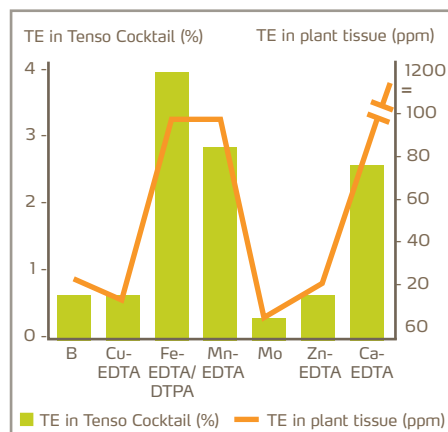
#### Product Features

- Contains B, Ca, Cu, Mn, Mo, Fe & Zn
- Chelate types EDTA & DTPA ( efficacy of chelates over 80% ).
- Instant and completely soluble.
- High purity.
- Composition linked to crop needs.
- Intermixable with soluble fertilizers and most herbicides and pesticides.
- Suitable for irrigation, fertigation and soil injection.

#### Benefits

- To prevent and cure trace element deficiencies.
- Easy handling, just one product to weigh out.
- Chelate type EDTA and DTPA.
- Completely water soluble.
- Composition linked to crop requirements.
- Efficacy of chelate over 80%.
- Tank mix with other water soluble fertilizers

#### Relation between trace element content in TENSOTM COCKTAIL (%) and average level in plant tissue (ppm)



#### Composition

Boron	0.52%
Manganese-EDTA	2.57%
Copper-EDTA	0.53%
Molybdenum	0.13%
Calcium-EDTA	2.57%
Zinc-EDTA	0.53%
Iron-EDTA	2.10%
Iron-DTPA	1.74%



#### Guidelines for application

	Foliar Sprays (kg/ha)	Irrigation/fertigation soil injection (g/10 kg fertilizer)
Fruit trees	1,5 - 2,0	300
Soft fruit	1,0 - 1,5	250
Grapes	1,0 - 1,5	250
Vegetables	0,5 - 1,0	150
Field crops	1,0 - 1,5	200
Cut flowers	0,5 - 1,0	150



# Paddock Royale™

12:11:18 + S + Mg + trace elements.

Fertilizer specially formulated for horse and pony paddocks

**Pack size**  
25kgs bags

## Benefits

- Balanced nutrients for plant and animal growth.
- Simple and accurate to apply.

## Recommendations

### For grazing

apply 4 bags/acre from mid-March, repeat early September in favourable conditions.

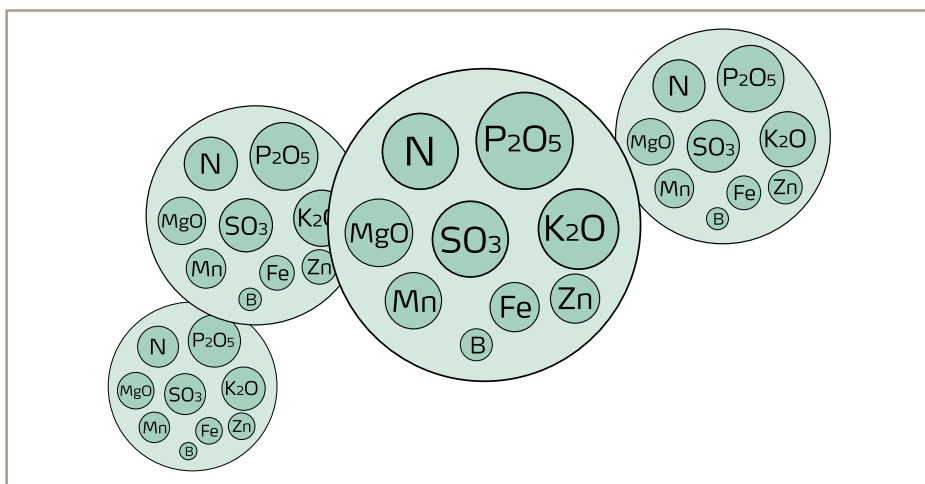
### For hay-making

apply 8 bags/acre in early/mid March. Allow at least 10 days or until you can't see the fertilizer before grazing.



Paddock Royale - for balanced plant and animal nutrition

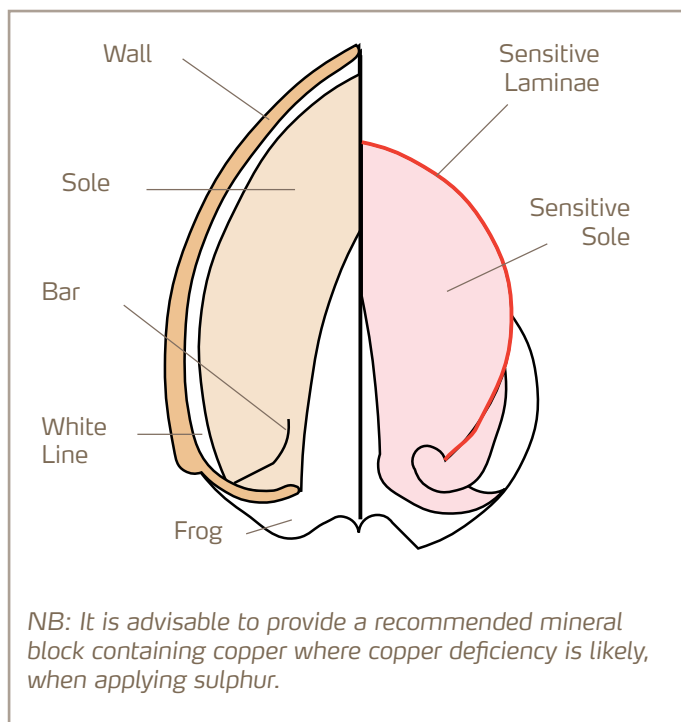
Every particle of fertilizer contains the right balance of nutrients.



- Containing only 12% nitrogen gives steady growth avoiding lush grass that could cause laminitis in susceptible animals.
- Contains magnesium to supplement the natural supply from the soil. In association with calcium and phosphate metabolism, magnesium is important for strong healthy bone growth in animals.
- Sulphur and zinc are important for the health of skin and hooves.

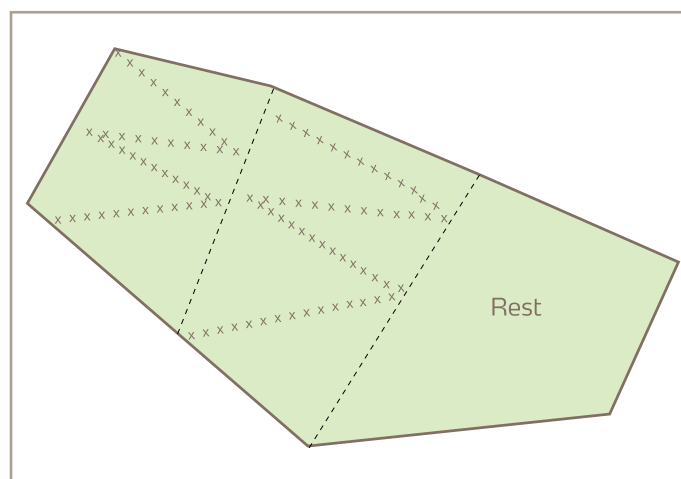






## Soil Sampling

- Take soil samples every 3 - 4 years from each paddock prior to applying fertilizer.
- It is important to maintain the phosphate, potassium and magnesium levels at index 2.
- Where soils are too acidic, growth will be severely restricted.

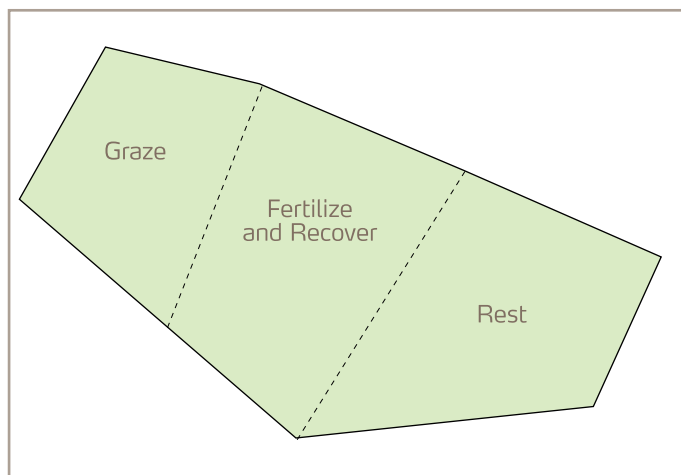


For further details on soil sampling contact Yara Analytical Services tel: 01759 305116  
e-mail: [ypl.laboratory@yara.com](mailto:ypl.laboratory@yara.com)



## Paddock Maintenance

- If possible divide your paddocks into 3 equal sized areas.
- Rest a third each spring.
- Allow at least 10 days after fertilizer application or until you can't see the fertilizer before grazing.
- Avoid poaching in the autumn as the damage can last through to the following summer.



# ANTIBLOC™ 1 MINERAL

for Hydroponic Irrigation systems

A new, revolutionary and safe way to prevent blockages in irrigation.

Prevents and removes scaling of mineral origin like calcium and iron phosphate.

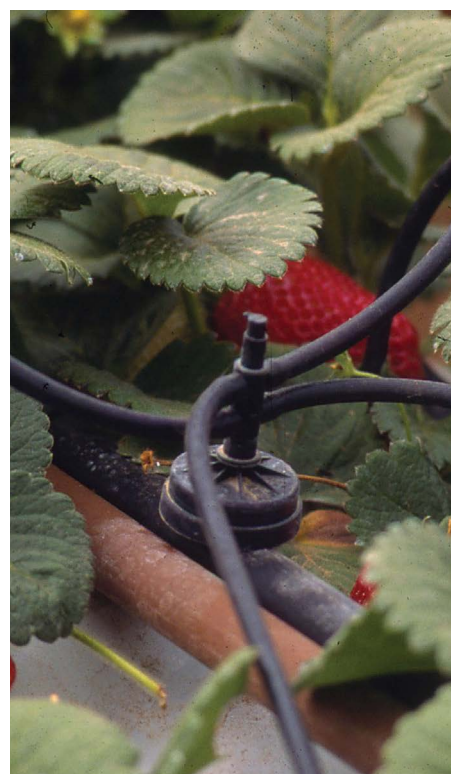
- Is a solution of specially activated phosphates.
- Is safe for plants and users.
- Specially intended for use with bore-hole and mains water.
- Simple to use, requires no pre-mixing, or specialist equipment.
- Keeps nutrients in solution, and available to the plant.

Yara AntiBloc™ 1-Mineral is a solution of specially activated phosphates (18.8%  $P_2O_5$ , 6.3%  $K_2O$ , 5.8%  $Na_2O$ ).

Apply 9.6 ltr AntiBloc1 in 100,000 ltr irrigation water, via the B-Tank or direct injection throughout the growing season.

## Technical Specification

Packaging	20 & 200 ltr cans
Specific gravity	1.3kg/ltr
Physical characteristics	clear liquid
Q.A.	ISO9002 production



## Technical Information

Generally blockages of drip-irrigation and fertigation systems, are caused by mineral and organic deposits on inside walls of the irrigation lines. Both types of deposits, especially together, can lead to serious disruptions in the flow of water and nutrients to the crop.

Mineral deposits are mainly calcium and iron phosphates, and can be dissolved using acids. However, over-dosage of acids can cause severe crop damage and are therefore generally used just once per year, when the crop is removed.

Yara has chosen to develop a safe way to prevent the blockage of irrigation lines. With the "neutral" AntiBloc™ formula, calcium and iron-phosphate will stay in solution and already formed mineral deposits will dissolve. With no mineral deposits present anymore the ability of organic matter to attach to the inner walls of the irrigation lines is less likely. Consequently organic fouling can be reduced.

### How to use AntiBloc™1-Mineral;

**1.** When AntiBloc is applied in a curative way to systems with substantial amounts of mineral deposits, special attention is required. In these cases AntiBloc™ may cause the rapid release of so much deposit that smaller lines or nozzle's may get clogged. When applied to such already contaminated systems it is necessary to regularly remove end caps and flush the system thoroughly until all deposit is removed.

**2.** With A and B tank systems use 9.6 litres AntiBloc1-Mineral per 1000 litres stock solution in the B-Tank, @ 1:100 times dilution.

The phosphate and potassium input can be compensated for in the following ways:

**a)** Reduce the amount of mono potassium phosphate (MKP) by 3.4 kg per 9.6 ltr AntiBloc

**b)** When acids are used: Reduce the amount of phosphoric acid (80 %) by 2.2 litre and the amount of potassium nitrate by 2.5 kg. per 9.6 litre AntiBloc1-Mineral and increase the amount of nitric acid (60 %) by 2.2 litre per 9.6 litre AntiBloc.

**3.** With an A and B tank systems all trace elements, including the iron EDTA have to be dissolved in the A-tank. Ensure the pH of the A-Tank is between 3.5 - 5.4 pH to keep all the trace elements available.

**4.** A maximum of 50kg Potassium Nitrate and / or Potassium Chloride per 1000 litre stock solution should be in the B-Stock tank, the remainder should be dissolved in the A-Tank.

**5.** In the B-tank first add 500 litre water per 1000 litre volume. Then add 9.6 litre AntiBloc acidified with 1 litre nitric acid and stir well. Then add the other fertilizers and the necessary water.

**6.** No negative consequences of AntiBloc in combination with crop protection agents in the irrigation water are currently known. Still as a preventive measure, we recommend to interrupt the dosage of AntiBloc when crop protection agents are used.

**NB.** In a standard hydroponic system, the B-tank normally contains the phosphates, sulphates (MKP,  $\text{MgSO}_4$ ,  $\text{KSO}_3$ ), trace elements and some of the potassium nitrate / chloride. The A-Tank normally contains the calcium nitrate, potassium nitrate / chloride and iron chelate.

**NB.** Occasionally, AntiBloc1 can cause a sticky precipitate in the B-tank due to the fertilizer composition. Under these circumstances, it is necessary to use a direct injection system.

**NB. Use AntiBloc 1 or 2, individually, and never at the same time.**





## Foliar Micronutrients

### YaraVita Single Nutrients

<b>Mantrac Pro</b> flowable suspension concentrate	500 g/l Mn	5 litre pack
<b>Mantrac DF</b> dry flowable powder	310 g/kg Mn	10 kg pack
<b>Teprosyn Manganese</b> seed treatment for cereals and pulses	500 g/l Mn	20 litre pack
<b>Magflo 300</b> flowable suspension concentrate	300 g/l Mg	10 litre pack
<b>Coptrel 500</b> flowable suspension concentrate	500 g/l Cu	5 litre pack
<b>Molytrac</b> concentrated liquid	250 g/l Mo	5 litre pack
<b>Bortrac 150</b> concentrated liquid	150 g/l B	10 litre pack
<b>Zintrac 700</b> flowable suspension concentrate	700 g/l Zn	5 litre pack
<b>Thiotrac 300</b> concentrated liquid	300 g/l S 200 g/l N	10 litre pack
<b>Safe N 300</b> concentrated liquid	312 g/l N	10 litre, 20 litre packs
<b>Foliar Potash</b> concentrated liquid	500 g/l K <sub>2</sub> O	10 litre pack
<b>Ferleaf</b> for foliar application concentrated liquid	100 g/l Fe as EDTA	5 litre pack
<b>Fersoil</b> for soil application concentrated liquid	54 g/l Fe as EDDHA	10 litre pack
<b>Stopit</b> for soil application concentrated liquid	160 g/l Ca	10 litre, 210 litre and 1000 litre IBC

## YaraVita Crop-Specific Nutrient Combinations

<b>Gramitrel</b> - A new innovation for cereal crop nutrition	64 g/l N, 150 g/l Mg, 150 g/l Mn, 50 g/l Cu, 80 g/l Zn	10 litre pack
<b>ManCuflo</b> - flowable suspension concentrate for cereals	375 g/l Mn 125 g/l Cu	5 litre pack
<b>Mancozin</b> - flowable suspension concentrate for cereals	330 g/l Mn 110 g/l Cu, 84 g/l Zn	5 litre pack
<b>Photrel-Pro</b> for oilseed rape, sugar beet, brassicas, legumes and other crops	80 g/kg B, 4 g/kg Mo 70 g/kg Mn, 50 g/kg Mg 115 g/kg S	10 kg box
<b>Brassitrel-Pro</b> - flowable suspension concentration for oilseed rape	60 g/l B, 70 g/l Mn, 70 g/l Mg 4 g/l Mo, 89 g/l Ca, 69 g/l N	10 litre pack
<b>Beetrac</b> for sugar beet	60 g/kg B, 120 g/kg Mn 55 g/kg Zn, 100 g/kg S 3 g/kg Cu (chelated by EDTA) 3 g/kg Fe as a complex	10 kg box
<b>Croplift-Pro</b> - multinutrient product for all field crops	200 g/kg N, 80 g/kg P <sub>2</sub> O <sub>5</sub> 140 g/kg K <sub>2</sub> O + Mg + S, Mn Cu, Zn, B, Fe, Mo	5 kg box and 20 kg bag
<b>Bud Builder FL</b> - flowable suspension concentrate for top & soft fruit crops	69 g/l N: 30 g/l B: 100 g/l Zn: 50 g/l P <sub>2</sub> O <sub>5</sub> : 240 g/l MgO	10 litre pack
<b>Seniphos</b> for top and soft fruit crops	310 g/l P <sub>2</sub> O <sub>5</sub> , 40 g/l Ca: 39 g/l N	10 litre, 210 litre, and 1000 litre IBC
<b>Phosamco-Bio</b> for fruit and horticultural crops	100 g/l N: 40 g/l P <sub>2</sub> O <sub>5</sub> : 70 g/l K <sub>2</sub> O: + trace elements + seaweed	10 litre pack and 1000 litre IBC
<b>Magphos K</b> for main crop potatoes	440 g/l P <sub>2</sub> O <sub>5</sub> , 74 g/l K <sub>2</sub> O, 60 g/l Mg	10 litre and 1000 litre IBC
<b>Maize Boost</b> for maize	440 g/l P <sub>2</sub> O <sub>5</sub> 75 g/l K <sub>2</sub> O, 46 g/l Zn: 40 g/l Mg	10 litre and 1000 litre IBC

# YaraVita™

## REXOLIN™ Chelates

### High Performance Iron Chelates

Products	Description	Iron content % w/w	Pack size
YaraVita Rexolin Q48	EDDHA Chelated Iron (ortho-ortho content 4.8%) Microgranular	6.0	20 x 25kg
YaraVita Rexolin X60	HBED Chelated Iron (ortho-ortho 6.0%) Microgranular	6.0	400kg (20x(4x5kg))
YaraVita Rexolin Q40	EDDHA Chelated Iron (ortho-ortho content 4.0%) Microgranular	6.0	20 x 25kg
YaraVita Rexolin Q15	EDDHA Chelated Iron (ortho-ortho content 1.5%) Microgranular	7.0	20 x 25kg

'Rexolin® is a registered trademark of Akzo Nobel Chemicals BV or one of its affiliated companies in one or more territories.'





## Iron Chelates

Product	Description	Iron content % w/w	Packsize
YaraVita Rexolin D11	DTPA Chelated Iron Crystals	11.6	30 x 25kg
YaraVita Rexolin D6	DTPA Chelated Iron Liquid	6.1	1250kg
YaraVita Rexolin E13	EDTA Chelated Iron Crystals	13.3	40 x 25kg
YaraVita Rexolin E8	EDTA Chelated Iron Liquid	7.7	78 x 10 litre (13.20 kg)
YaraVita Rexolin E6	EDTA Chelated Iron Liquid	6.1	4 x 250kg

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## Other Metal Chelates

Product	Description	Mg % w/w	Ca % w/w	Fe % w/w	Cu % w/w	Mn % w/w	Zn % w/w	Packsize
YaraVita Rexolin Ca10	EDTA Chelated Calcium Microgranular		9.7					30 x 25kg
YaraVita Rexolin Cu15	EDTA Chelated Copper Microgranular				14.8			30 x 25kg
YaraVita Rexolin Cu9	EDTA Chelated Copper Liquid				9.0			1250kg
YaraVita Rexolin Mg6	EDTA Chelated Magnesium Microgranular	6.2						30 x 25kg
YaraVita Rexolin Mn13	EDTA Chelated Manganese Microgranular					12.8		30 x 25kg
YaraVita Rexolin Mn6	EDTA Chelated Manganese liquid					6.2		1250kg
YaraVita Rexolin Zn15	EDTA Chelated Zinc Microgranular						14.8	30 x 25kg
YaraVita Rexolin Zn9	EDTA Chelated Zinc Liquid						9.0	1250kg

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## Other Metal Chelates

Product	Description	Mg % w/w	Ca	Fe	Cu	Mn	Zn	Mn	Mo	Co	Packsize
YaraVita Rexolin BSP	EDTA Micronutrients Microgranular			7.5	0.3	3.7	0.6	0.7 inorg	0.2 inorg		20 x 25kg

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inorg = inorganic non-chelated

# Mixability of fertilizers for preparation of concentrated solutions for Fertigation

	Amnitra™	YaraLiva™ CAL- CINIT™	Kristalon grades	Krista™ MAP	Krista™ MKP	Krista™ K	Krista™ SOP	Krista™ MAG	Krista™ MgS	Krista™ UP	Calci- MAG™	Urea	Phos- phoric Acid	Nitric Acid	Boric Acid	micronu- trientes based in sulphates
Amnitra™	-	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES 1	YES 1	YES	YES
YaraLiva™ CALCINIT™	YES	-	NO	NO	NO	YES	NO	YES	NO	NO**	YES	YES	NO	YES 1	YES	NO
Kristalon grades	Yes	NO	-	YES	YES	YES	YES	YES	YES	NO**	NO	YES	NO+	NO+	NO+	YES
Krista™ MAP	YES	NO	YES	-	YES	YES	YES	RS***	NO**	YES	RS***	YES	P	P	YES	YES
Krista™ MKP	YES	NO	YES	YES	-	YES	YES	RS***	NO**	YES	RS***	YES	YES 1	YES 1	YES	YES
Krista™ K	YES	YES	YES	YES	YES	-	RS*	YES	RS*	YES	YES	YES	P	P	YES	YES
Krista™ SOP	YES	NO	YES	YES	YES	RS*	-	RS	YES	YES	NO	YES	P	P	YES	YES
Krista™ MAG	YES	YES	YES	RS***	RS***	YES	YES	-	YES	YES	YES	YES	RS***	P	NO	YES
Krista™ MgS	YES	NO	YES	NO**	NO**	RS*	RS	YES	-	NO**	NO**	YES	NO**	YES 1	NO	YES
Krista™ UP	YES	NO**	YES	YES	YES	YES	YES	YES	NO**	-	NO	YES	P	P	YES	YES
Calci-MAG™	YES	YES	NO	RS***	RS***	YES	NO	YES	NO**	NO	-	YES	RS***	P	NO	NO
Urea	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	-	YES 1	YES 1	YES	YES
Phosphoric acid	YES	NO	NO+	P	YES	P	P	RS***	NO**	P	RS***	YES	-	YES 1	P	YES 1
Nitric acid	YES	YES	NO+	P	YES	P	P	P	YES	P	P	NO	YES 1	-	P	YES 1
Boric Acid	YES	NO	NO+	YES	YES	YES	YES	NO	NO	YES	NO	YES	P	P	-	YES
micronutri- entes based in sulphates	YES	NO	YES	YES	YES	YES	YES	YES	YES	YES	NO	YES	YES 1	YES 1	YES	-

NO\*\* Restricted mixtures, or high concentrations precipitations could turn out.

RS Reduced solubility

RS\* Consider the Krista SOP solubility

P Precaution: should be mixed with precaution, follow the order: 1st water, 2nd specialty nutrient and 3rd acid

No + Contain chelates which could be damaged with acids

RS\*\*\* Reduced solubility, is recommended to keep the pH below 5

Yes 1 Mix only with diluted solution

# Conversion Tables

## Metric -> Imperial

### FYM Conversion

kg t x 2 = units/t  
kg/m<sup>3</sup> x 9 = unit/1000 gal

### Chemical Conversion

P<sub>2</sub>O<sub>5</sub> x 0.44 = P  
K<sub>2</sub>O x 0.83 = K  
NH<sub>3</sub> x 0.82 = N  
SO<sub>3</sub> x 0.40 = S  
SO<sub>4</sub> x 0.33 = S  
CaO x 0.72 = Ca  
MgO x 0.60 = Mg

## Imperial -> Metric

units/t x 0.5 = kg/t  
units/1000 gal x 0.11 = kg/m<sup>3</sup>

P x 2.29 = P<sub>2</sub>O<sub>5</sub>  
K x 1.20 = K<sub>2</sub>O  
N x 1.21 = NH<sub>3</sub>  
S x 2.50 = SO<sub>3</sub>  
S x 3.00 = SO<sub>4</sub>  
Ca x 1.40 = CaO  
Mg x 1.66 = MgO

### Area/Distance

hectare x 2.471 = acre  
sq km x 0.386 = sq mile  
km x 0.621 = mile  
sq m x 10.764 = sq foot  
m x 1.094 = yard

acre x 0.405 = hectare  
sq. mile x 2.59 = sq km  
mile x 1.609 = km  
sq foot x 0.093 = sq m  
yard x 0.914 = m

### Weight/Volume

kg/ha x 0.8 = units/acre  
kg/ha x 0.892 = lbs/acre  
t/ha x 7.95 = cwt/acre  
l/ha x 0.089 = gal/acre  
litre x 1.76 = pint  
kg x 2.205 = lb

units/acre x 1.25 = kg/ha  
lbs/acre x 1.121 = kg/ha  
cwt/acre x 0.126 = t/ha  
gal/acre x 11.24 = l/ha  
pint x 0.568 = litre  
lb x 0.454 = kg

### Pressure/Power

kW x 1.341 = hp  
bar x 14.7 = lbs/sq inch

hp x 0.746 = kW  
lbs/sq inch x 0.068 = bar

### Temperature

°C x 1.8 + 32 = °F

°F -32 ÷ 1.8 = °C

## Storage

Weight loss 100 tonnes grain (dried from 20% moisture to 15% moisture) = 5.88t

1 tonne wheat = 1.35 m<sup>3</sup> storage space

1 tonne OSR = 1.45 m<sup>3</sup> storage space

1 tonne wheat straw = 20 m<sup>3</sup> big bales

1 tonne barley straw = 18 m<sup>3</sup> big bales



# Notes



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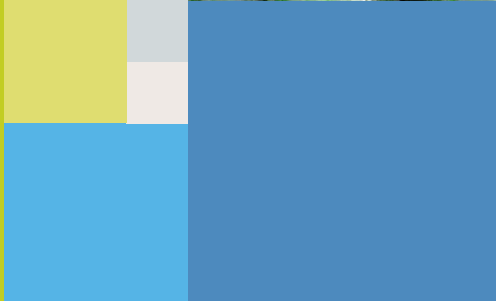
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Crop Knowledge -  
Product Combinations -  
In-field Expertise





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## About Yara

Yara's knowledge, products and solutions grow farmers and industrial customers' businesses profitably and responsibly, while nurturing and protecting the earth's resources, food and environment.

Our fertilizers, crop nutrition programs and technologies increase yields, improve produce quality, and reduce environmental impact from agricultural practices. Our industrial and environmental solutions reduce emissions and improve air quality from industry and transportation, and serve as key ingredients in the production of a wide range of goods.

Founded in 1905 to solve emerging famine in Europe, Yara today has a global presence with more than 12,000 employees and sales to more than 150 countries. [www.yara.com](http://www.yara.com)

