



Knowledge grows

YaraTera™ KRISTALON™

Premium water soluble NPK fertilizer

Top grade Crop Nutrition



YaraTera™ KRISTALON™

The best nutrient solutions

YaraTera KRISTALON is a growth stage based, fully water soluble NPK fertilizer solution for fertigation systems. The different grades are made of highest quality raw materials (hydroponic quality grade).

YaraTera KRISTALON is suitable for:

All crops – ornamentals / pot plants, vegetables and fruit crops

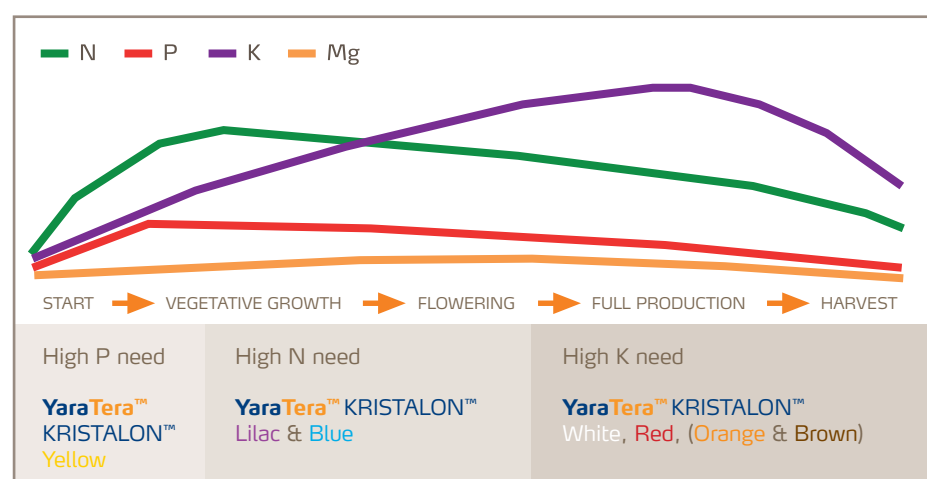
All type of root media

- ✓ Soil - high pH and low pH soils.
- ✓ Soilless - Rockwool, NFT, Coco, Peat, Perlite, etc.

All type of fertigation systems

- ✓ Basic 1 (or 2 A+B) tanks systems in the open field
- ✓ High tech 2 tank A+B systems in greenhouses.

YaraTera KRISTALON One solution for each growth stage



Note:

YaraTera KRISTALON SPECIAL products are urea based and developed for foliar application



Highest grade formulas and raw-materials



Nitrogen

- ✓ Always nitrate (NO_3) based - in a high % content, and without Urea*
- ✓ NH_4 is added as pH regulator - relatively high in the standard range, and low in the YaraTera KRISTALON LABEL
- ✓ Even formulas without NH_4 - especially for hydroponics, the low N formulas

Chloride free formulas

- ✓ Potassium – nitrate and/or sulfate based
- ✓ Absolutely no MOP / KCL in any formula

Micronutrients

- ✓ Always a complete package of chelated micronutrients
- ✓ Different packages in the brand, based on different needs
- ✓ All metals are EDTA-chelated - for a better availability and more pH independency
- ✓ Fe based on EDTA-chelate, some even as DTPA-chelate

Latest product developments included

- ✓ With SUPER FK polyphosphate - YaraTera KRISTALON SUPER
- ✓ YaraTera KRISTALON ACID for poor quality bicarbonate water

Physical quality

- 100% water soluble
- ✓ Precipitation-free fertilizer tank
- ✓ No clogged filters/systems
- Pure and homogenous/uniform
- ✓ No residue
- ✓ No segregation
- ✓ Possibility to dosage $\frac{1}{2}$ or $\frac{1}{4}$ bags.
- Free flowing/non-caking, dust free
- ✓ Fast and easy to handle
- ✓ Clean to use

* Except for YaraTera KRISTALON SPECIAL

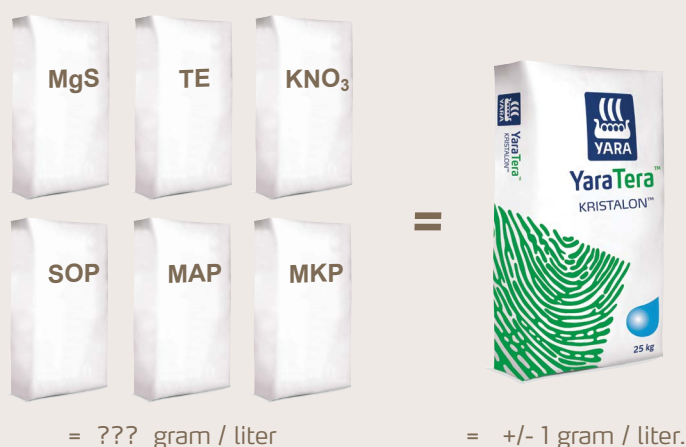
How to prepare a solution

Dissolve max. 10 kg YaraTera KRISTALON in 100 liters of water (= max. 10% solution). The stock solution must be further diluted to a concentration of 0,5 - 2,0 g/l.

Mix YaraTera KRISTALON formulas with each other or with YaraTera KRISTA straights to fine-tune to specific needs based on crop advise or local conditions.

Combine with YaraLiva CALCINIT in a separate fertilizer tank to complete the nutrition with calcium for stronger cell structures, crop protection, and ultimately the best result.

One balanced formula with N, P, K, Mg and micronutrients to avoid mistakes, crop damage or precipitation



*Do not mix YaraTera™ KRISTALON™ and YaraLiva™ CALCINIT™ in the same stock solution tank, to avoid precipitation.

YaraTera™ KRISTALON™

Product Ranges

YaraTera KRISTALON

Designed for alkaline soils (pH >7), due to relatively high NH_4 formulas

- Suited for 1 tank fertigation systems

| YaraTera KRISTALON | N-K Ratio | Application |
|-------------------------|-----------|----------------------------|
| Yellow 13-40-13 | 1-(3)-1 | High P - Starter |
| Lilac 19-6-6 +1 | 3-1 | High N - Strong vegetative |
| Azur 20-5-10 +2 | 2-1 | High N - Vegetative |
| Blue 17-6-18 +2 | 1-1 | High N - Vegetative |
| White 13-5-26 +3 | 1-2 | High K - Generative |
| Red 12-12-36 +1 | 1-3 | High K - Strong generative |

YaraTera KRISTALON LABEL

Designed for neutral / acidic soils (pH <7), due to relatively low NH_4 formulas

- Suited for 1 tank fertigation systems

| YaraTera KRISTALON | N-K Ratio | Application |
|-------------------------------|-----------|----------------------------|
| LABEL Lilac 20-8-8 +2 | 3-1 | High N - Strong Vegetative |
| LABEL Blue 19-6-20 +3 | 1-1 | High N - Vegetative |
| LABEL White 15-5-30 +3 | 1-2 | High K - Generative |
| LABEL Green 18-18-18 | 1-(1)-1 | General purpose formula |





YaraTera KRISTALON SUPER

The top YaraTera KRISTALON range, with SUPER FK Polyphosphates

- For stronger roots, a stronger healthier crop and higher productions
- A clean fertigation system, without precipitation.

| YaraTera KRISTALON | N-K Ratio | Application |
|-----------------------------|-----------|--|
| SUPER Blue 19-6-20 | 1-1 | Vegetative (75% SUPER FK) |
| SUPER White 17-6-25 | 1-1,5 | Vegetative / Generative (50% SUPER FK) |
| SUPER Red 12-12-36 | 1-3 | Strong Generative (50% SUPER FK) |
| SUPER Orange 8-11-45 | 1-6 | Low in N* (50% SUPER FK) |

*Formula low in total – N, to combine with YaraLiva CALCINIT in A+B tank system



YaraTera KRISTALON ACID

Designed for poor water quality conditions, water with high bicarbonate

- Products contain already acid to reduce bicarbonate

| YaraTera KRISTALON | N-K Ratio | Application |
|--------------------------------|-----------|----------------------------|
| ACID Yellow 11-38-11 +3 | 1-(3)-1 | High P - Starter |
| ACID Blue 16-6-17 +2,5 | 1-1 | High N - Vegetative |
| ACID White 13-6-26 +3 | 1-2 | High K - Generative |
| ACID Red 11-11-32 +3 | 1-3 | High K - Strong generative |
| ACID Green 16-16-16+4 | 1-(1)-1 | General-purpose formula |





YaraTera KRISTALON Low N formulas

Designed for hydroponic systems, also suited for soil grown A+B systems

- Additional range extra low total-N formulas.
- To combine with YaraLiva CALCINIT in a 2 tank A+B system
- Rockwool, peat, soil, suited for all type of root medium

| YaraTera KRISTALON | N-K Ratio | Application |
|-------------------------------|-----------|---|
| Indigo 9-11-30+7 | 1-3 | Low NH ₄ , high MgO |
| Plus 8-7-32 +7 | 1-4 | NH ₄ free, high MgO |
| Scarlet 7,5-12-36 +4,5 | 1-5 | NH ₄ free, high MgO |
| Orange 6-12-36 +3 | 1-6 | 1.5 NH ₄ , generative |
| Brown 3-11-38 +4 | 1-12 | NH ₄ free, strong generative |



YaraTera KRISTALON SPECIAL

Designed for foliar applications, due to the use of Urea

| YaraTera KRISTALON | N-K Ratio | Application |
|------------------------------|-----------|---------------------------|
| SPECIAL 18-18-18 | 1-(1)-1 | Foliar Urea based formula |
| SPECIAL Plus 20-20-20 | 1-(1)-1 | Foliar with adjuvant |



YaraTera™ KRISTALON™

Overview and Specifications



Most Complete Range

| YaraTera KRISTALON | N-total | NO ₃ -N ¹⁾ | NH ₄ -N ²⁾ | Ur-N ³⁾ | P ₂ O ₅ | P | K ₂ O | K | MgO | Mg | SO ₃ | S | EC ⁴⁾ |
|---------------------|---------|----------------------------------|----------------------------------|--------------------|-------------------------------|------|------------------|------|-----|-----|-----------------|------|------------------|
| Yellow | 13,0 | 4,4 | 8,6 | -- | 40,0 | 17,4 | 13,0 | 10,8 | -- | -- | -- | -- | 1,1 |
| Lilac | 19,0 | 3,4 | 15,6 | -- | 6,0 | 2,6 | 6,0 | 5,0 | 1,0 | 0,6 | 40,0 | 16,0 | 1,8 |
| Azur | 20,0 | 7,9 | 12,1 | -- | 5,0 | 2,2 | 10,0 | 8,3 | 2,0 | 1,2 | 25,0 | 10,0 | 1,5 |
| Blue | 17,0 | 8,0 | 9,0 | -- | 6,0 | 2,6 | 18,0 | 14,9 | 2,0 | 1,2 | 20,0 | 8,0 | 1,6 |
| White | 13,0 | 7,0 | 6,0 | -- | 5,0 | 2,2 | 26,0 | 21,6 | 3,0 | 1,8 | 22,5 | 9,0 | 1,5 |
| Red | 12,0 | 10,1 | 1,9 | -- | 12,0 | 5,2 | 36,0 | 29,9 | 1,0 | 0,6 | 2,5 | 1,0 | 1,3 |
| LABEL Lilac | 20,0 | 6,8 | 13,2 | -- | 8,0 | 3,5 | 8,0 | 6,6 | 2,0 | 1,2 | 25,0 | 10,0 | 1,6 |
| LABEL Blue | 19,0 | 11,9 | 7,1 | -- | 6,0 | 2,6 | 20,0 | 16,6 | 3,0 | 1,8 | 7,5 | 3,0 | 1,5 |
| LABEL White | 15,0 | 11,3 | 3,7 | -- | 5,0 | 2,2 | 30,0 | 24,9 | 3,0 | 1,8 | 6,0 | 2,4 | 1,4 |
| LABEL Green | 18,0 | 9,8 | 8,2 | -- | 18,0 | 7,8 | 18,0 | 14,9 | -- | -- | -- | -- | 1,4 |
| SUPER Blue (Arbora) | 19,0 | 9,4 | 9,6 | -- | 6,0 | 2,6 | 20,0 | 16,6 | -- | -- | 15,0 | 6,0 | 1,5 |
| SUPER White (Vega) | 17,0 | 9,0 | 8,0 | -- | 6,0 | 2,6 | 25,0 | 20,8 | -- | -- | 15,0 | 6,0 | 1,5 |
| SUPER Red (Gena) | 12,0 | 9,5 | 2,5 | -- | 12,0 | 5,2 | 36,0 | 29,9 | -- | -- | 5,0 | 2,0 | 1,3 |
| SUPER Orange | 8,0 | 8,0 | -- | -- | 11,0 | 4,8 | 45,0 | 37,7 | -- | -- | 8,0 | 3,2 | 1,3 |
| ACID Yellow | 11,0 | 3,5 | 7,5 | -- | 38,0 | 16,6 | 11,0 | 9,1 | 3,0 | 1,8 | 6,7 | 2,7 | 1,2 |
| ACID Blue | 16,0 | 7,9 | 8,1 | -- | 6,0 | 2,6 | 17,0 | 14,1 | 2,5 | 1,5 | 18,5 | 7,4 | 1,6 |
| ACID White | 13,0 | 8,8 | 4,2 | -- | 6,0 | 2,6 | 26,0 | 21,6 | 3,0 | 1,8 | 12,8 | 5,1 | 1,5 |
| ACID Red | 11,0 | 9,7 | 1,3 | -- | 11,0 | 4,8 | 32,0 | 26,6 | 3,0 | 1,8 | 5,8 | 2,3 | 1,4 |
| ACID Green | 16,0 | 9,2 | 6,8 | -- | 16,0 | 7,0 | 16,0 | 13,3 | 3,8 | 2,3 | 7,7 | 3,1 | 1,5 |
| Indigo | 8,5 | 7,5 | 1,0 | -- | 11,0 | 4,8 | 30,0 | 24,9 | 7,0 | 4,2 | 14,3 | 5,7 | 1,3 |
| Plus | 8,0 | 8,0 | -- | -- | 7,0 | 3,1 | 32,0 | 26,6 | 6,5 | 3,9 | 14,0 | 5,6 | 1,3 |
| Scarlet | 7,5 | 7,5 | -- | -- | 12,0 | 5,2 | 36,0 | 29,9 | 4,5 | 2,7 | 10,0 | 4,0 | 1,3 |
| Orange | 6,0 | 4,5 | 1,5 | -- | 12,0 | 5,2 | 36,0 | 29,9 | 3,0 | 1,8 | 20,0 | 8,0 | 1,4 |
| Brown | 3,0 | 3,0 | -- | -- | 11,0 | 4,8 | 38,0 | 31,5 | 4,0 | 2,4 | 27,5 | 11,0 | 1,4 |
| SPECIAL | 18,0 | 4,9 | 3,3 | 9,8 | 18,0 | 7,8 | 18,0 | 14,9 | 3,0 | 1,8 | 5,0 | 2,0 | 1,1 |
| SPECIAL PLUS | 20,0 | 3,1 | 2,3 | 14,6 | 20,0 | 8,7 | 20,0 | 16,6 | -- | -- | 4,0 | 1,6 | 0,8 |

Micronutrient contents (%w/w)

| YaraTera KRISTALON | B | Cu-EDTA | Fe-total | Fe-EDTA | Fe-DTPA | Mn-EDTA | Mo | Zn-EDTA |
|-------------------------------|-------|---------|----------|---------|---------|---------|-------|---------|
| Micro's in all formulas | 0,025 | 0,01 | 0,07 | 0,07 | -- | 0,04 | 0,004 | 0,025 |
| Except | | | | | | | | |
| LABEL Green | 0,050 | 0,02 | 0,14 | 0,14 | -- | 0,08 | 0,008 | 0,050 |
| SUPER Orange / Orange / Brown | 0,025 | 0,01 | 0,07 | -- | 0,07 | 0,04 | 0,004 | 0,025 |
| Indigo / Plus | 0,027 | 0,004 | 0,20 | -- | 0,20 | 0,06 | 0,004 | 0,027 |
| Scarlet | 0,027 | 0,004 | 0,15 | 0,075 | 0,075 | 0,06 | 0,004 | 0,027 |

- 1) Nitrate-nitrogen directly available for uptake by the roots.
2) Ammonium-nitrogen is effective in a slightly lowering of soil pH.
3) Nitrogen in Urea-form specially effective in foliar sprays.
4) In mS/cm (l g/l in pure water).

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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



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