



# YaraLiva<sup>®</sup>

## CALCINIT<sup>®</sup>

### YaraLiva CALCINIT

Total Nitrogen (N)	15.5%	Solubility (20°C)	1200 g/l water
Nitrate Nitrogen (NO <sub>3</sub> )	14.4%	EC (1g/l at 25°C)	1.2mS/cm
Ammonium Nitrogen (NH <sub>4</sub> )	1.1%	pH (10% solution)	6.0
Calcium (Ca)	19.0%	Colour	White

#### Nitrate nitrogen

Directly available for plant uptake, resulting in fast and predictable growth responses. Non-volatile nor absorbed to soil particles, leaving it directly available to plants. The preferred 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, due to pest and disease resistance, improved shelf life and ultimately improved marketable yields
- root growth
- tolerance to heat stress
- soil structure

#### Compatibility

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

#### Calcium deficiency

Blossom end rot in tomatoes, tip burn in lettuce, internal rust spot in potatoes are some of the most commonly seen symptoms of calcium deficiency. Calcium uptake takes place passively through the transpiration stream, and it is essential that fully water soluble supply of calcium is available in the rootzone when plants need it most.



#### Benefits

- Fully water soluble nitrogen and calcium fertilizer. It is a free flowing, fine granular or prilled material which dissolves quickly in water without any residues.
- Suited to application through all fertigation systems - drip systems, low throw sprinklers, centre pivots and spray units.
- Free of chlorine, sodium and heavy metals.

Yara Fertilizers (NZ) Ltd.

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Disclaimer. The information provided is accurate to the best of Yara's knowledge and belief. Any recommendations are meant as a guide and must be adapted to suit local conditions.





## Knowledge grows

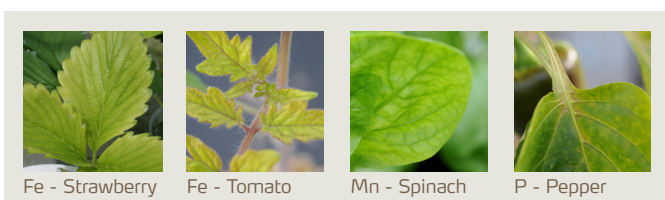
# YaraLiva™ gives your crops the little extra

A pinch of ammonium in YaraLiva CALCINIT gives a higher yield due to better pH control in the root zone.

### Why ammonium?

To avoid raising the pH in the nutrient solution, it is essential to avoid deficiencies of a range of nutrients, typically Fe, Mn and P.

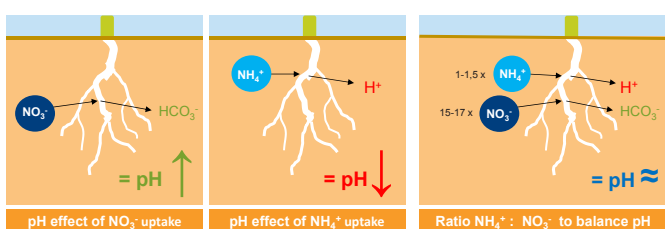
### Nutrient deficiencies due to high pH levels



### Why does this happen?

Above pH 6.2, dissolved P, Ca, Mg, Fe, Mn, Bo, Zn and Cu start to precipitate. With increasing pH, the precipitation happens both in the fresh drip water but also close to the roots, making these nutrients unavailable for plant uptake. During periods of strong vegetative growth with high nitrogen demand, the root uptake of nitrogen will influence the pH in the substrate. A pure nitrate nitrogen feed will raise the pH in the substrate.

### The root uptake of nitrogen influences the pH of the substrate



This is clearly demonstrated in a trial with Calcium Nitrate and YaraLiva CALCINIT where different levels of ammonium N were added (see Graph 1). A balanced pH regime was obtained with YaraLiva CALCINIT, containing 1,1% ammonical nitrogen.

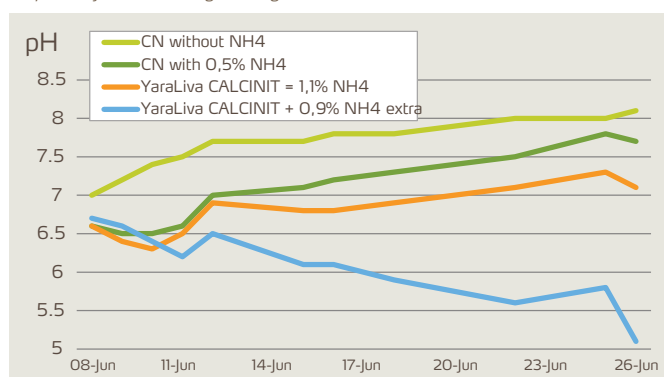
**Growth Strength & a more efficient fertilizer use.**

To ensure increased production, improved quality and, ultimately, higher crop profitability, use YaraLiva.

In addition to the pH control, research has shown (Graph 2.) that a small amount of ammonium gives a better yield. Beneficial yield effects of 85-90% nitrate-N and 10-15% ammonium-N are recommended to most crops grown in inactive substrates.

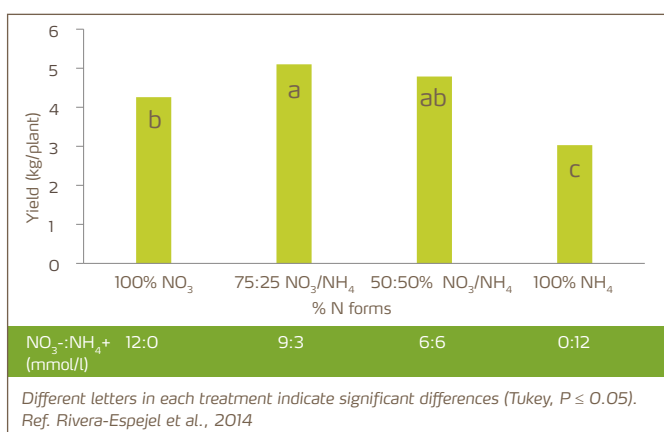
### Effect on pH level in the substrate

Graph 1. Ref. Yara Vlaardingen Fertigation center 2016



### Hydroponic trial in tomatoes from Mexico demonstrates better yield with some ammonium N in the feed.

Graph 2.



### YaraLiva CALCINIT is NOT classified as an oxidizing agent



Unlike Calcium Nitrate with less ammonium (EC no: 233-332-1, CAS no: 10124-37-5), YaraLiva CALCINIT (EC number 239-289-5, CAS no: 15245-12-2) is not classified as an oxidizing agent and is therefore not subject to restrictions in storage and handling which would impose additional costs, documentation and regulatory issues.



YaraLiva CALCINIT does not behave as a hazardous material in official safety tests. The product is a reliable product of consistent quality, and is safe to use with no record of accidents in manufacture, transport or storage, or of criminal acts, despite being the leading product in the market for more than 100 years.

**Our promise is that YaraLiva will be a vital part of your nutrient solution, both today and also in the future.**