



Knowledge grows

YaraTeraTM CALCINIT

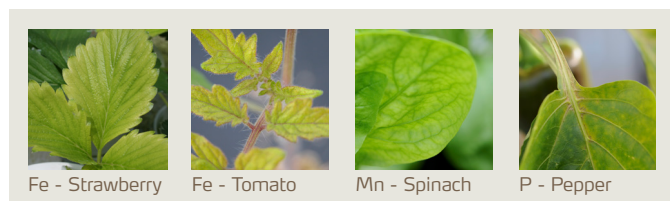
gives your crops the little extra

A pinch of ammonium in YaraTera 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.

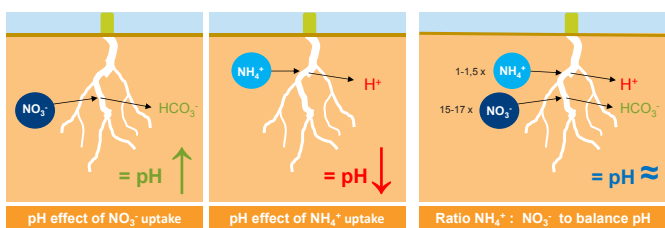
Nutrient deficiencies due to high pH levels



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



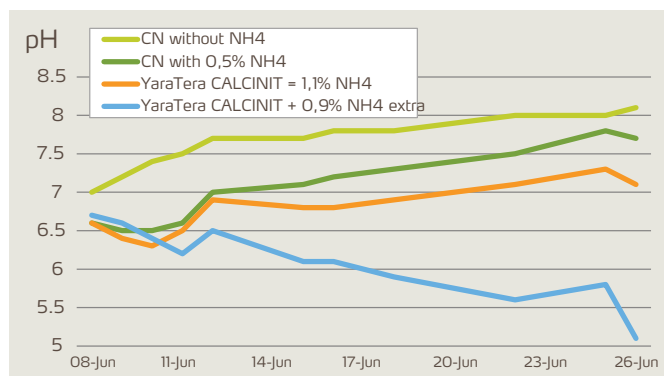
This is clearly demonstrated in a trial with Calcium Nitrate and YaraTera CALCINIT where different levels of ammonium N were added (see Graph 1). A balanced pH regime was obtained with YaraTera CALCINIT, containing 1,1% ammonical nitrogen.



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.

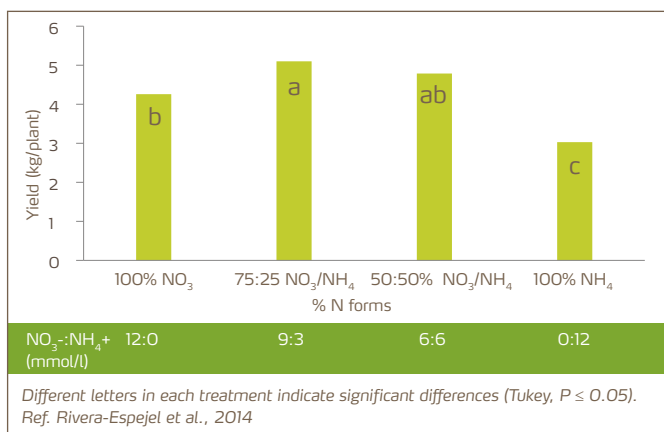
Effect on pH level in the substrate

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.



YaraTera CALCINIT is NOT classified as an oxidizing agent



Unlike Calcium Nitrate with less ammonium (EC no: 233-332-1, CAS no: 10124-37-5), YaraTera 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.



YaraTera 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 YaraTera will be a vital part of your nutrient solution, both today and also in the future.