



**PRODUCT INFO
& DATASHEET**

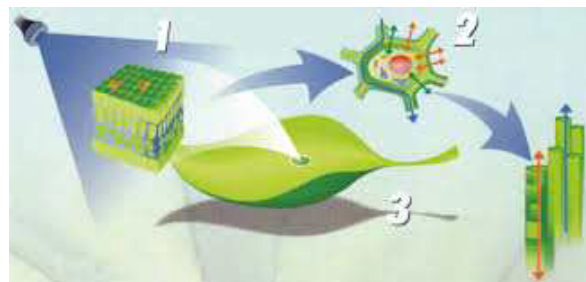
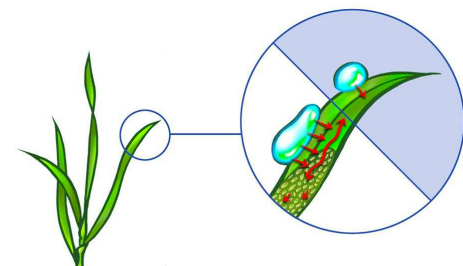
- SALES RATIONALE -

SICO-SRN 28N Liquid



FOLIAR APPLICATION Intracellular dynamics

- A very high percentage of SICO-SRN 28N remains on the plant tissue until it is absorbed. It causes no osmotic stress and therefore no damage to the plant.
- In a normal urea solution, a large amount of phytotoxic mineral salts remain on the surface of the plant. The crystallized urea remaining on the plant will hydrolyse into ammonia and carbon dioxide where it is lost to the atmosphere. This causes necrosis (or localised tissue damage) at the point of contact, and renders the plant incapable of absorbing the remaining nutrient salt.
- SICO-SRN 28N is a slight oily product and is readily absorbed across cell membranes. This oily, resinous aspect also confers to the product a characteristic rainfastness and is an excellent adjuvant for application of protection product (herbicide , insecticide, fungicide).
- SICO-SRN 28N will release N inside the plant for +/- 2 to 4weeks depending on conditions.



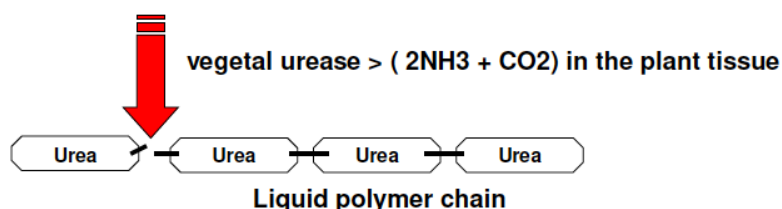
SICO-SRN 28N does not hydrolyse on the plant tissue, but is readily received across the cell membrane via cuticular transport carriers and /or stoma into the plant (Maier-Maercker, 1979; Franke, 1967; Marschner, 1986), where it is translocated for metabolism and use. (Bukovac and Wittwer, 1957; Kunnan, 1980).

The molecular weight of the short methylene urea chains in SICO-SRN 28N below the 300 Dalton , which is the limit of foliar absorption by physical impediment (the unified atomic mass units , called Da – dalton). The free Urea (unreacted) have a molecular weight 60 dalton; the MDU have a molecular weight of 112 dalton; the DMTU have a molecular weight of 174 dalton. Just as a term of comparison, the glutamic acid has a molecular weight of over 147 Daltons, the phenylalanine more than 165 and the tryptophan more than 204 . (Alexander, A., Helm, 1990).

The majority of SICO-SRN 28N can be found inside the plant within 6-8 hours of application, and essentially all of it is absorbed in 24-48 hours. Eventually, small portion that are not absorbed quickly in the leaf, remains on the leaf blade (durability on leaf are higher thanks to the good bonding and adhesive behavior) and subject of photo degradation of small polymers in single or two urea units molecules (Jahns, T., and Kaltwasser, 2000, Trenkel, M.E. 1997).

The nitrogen utilization in cellular metabolism refer to hydrolysis and enzymatic process (vegetal urease $> 2\text{NH}_3 + \text{CO}_2$). The majority of nitrogen it is absorbed in the more complex soluble polymethylene urea molecules until the plant can break them down into more usable units of nutrition. The portion of it which is in its simplest nitrogen state (urea) is used by the plant first. (W. Franke, 1967; Leece 1976 Wittwer, S.H., M.J. Bukovac and H.B. Tukey 1963). Degradation of liquid SICO-SRN 28N in the soil refer to hydrolysis and bacterial urease + bacterial enzymatic (MDUasi) degradation (A.Alexander 1990)

enzymatic process (vegetal urease $> 2\text{NH}_3 + \text{CO}_2$) in the plant tissue make available single unit of UREA from the Polymer chain. The UREA become available for nitrification process



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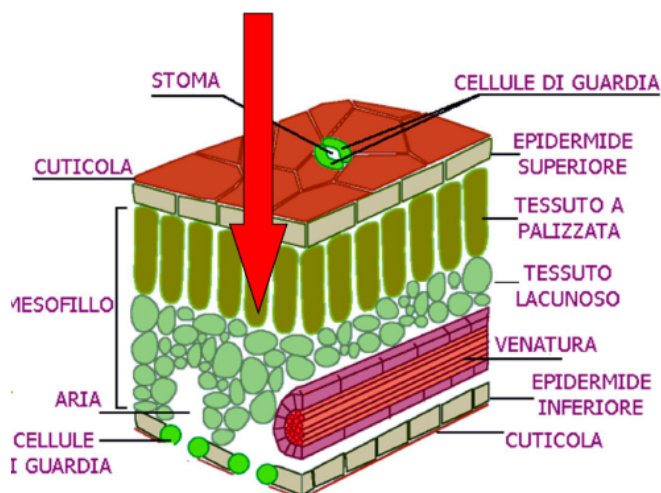
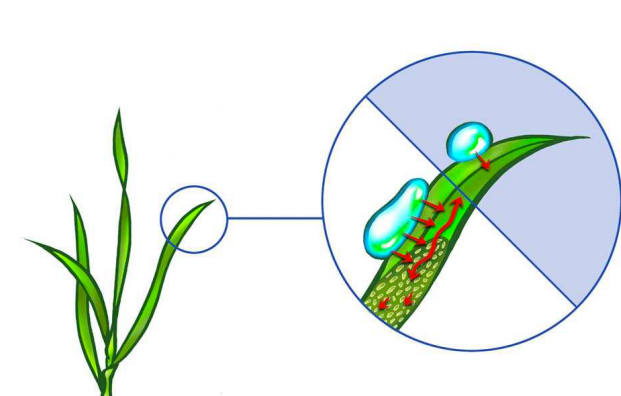


FOLIAR APPLICATION Intracellular dynamics

Liquid polymer chain SICO-SRN 28N

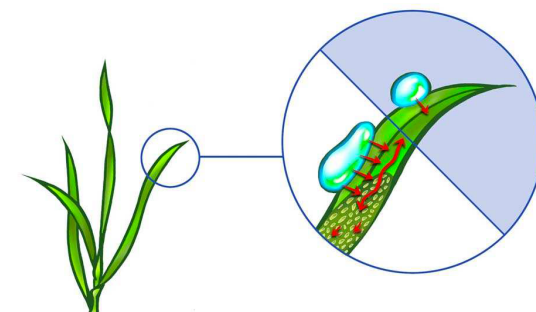
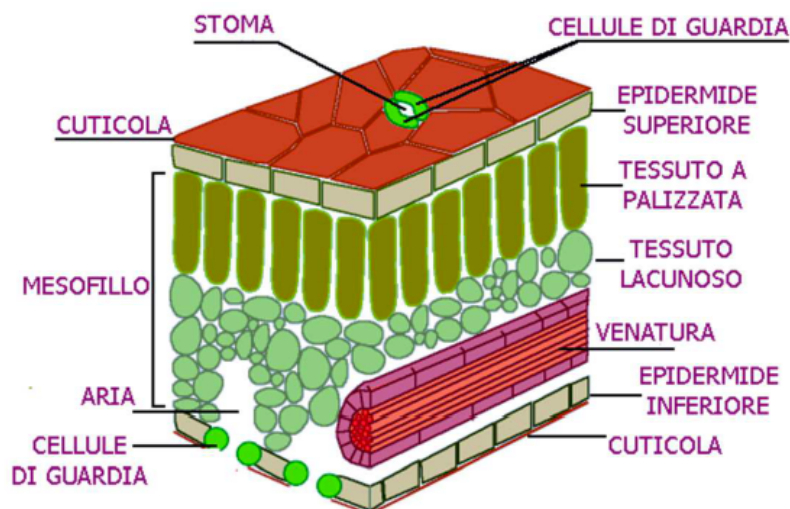


4/5 WEEK RELEASE



In NORMAL liquid Nitrogen solution UREA release is limited to few days

In SICO-SRN 28N liquid MI  UP to 4/5 WEEK RELEASE



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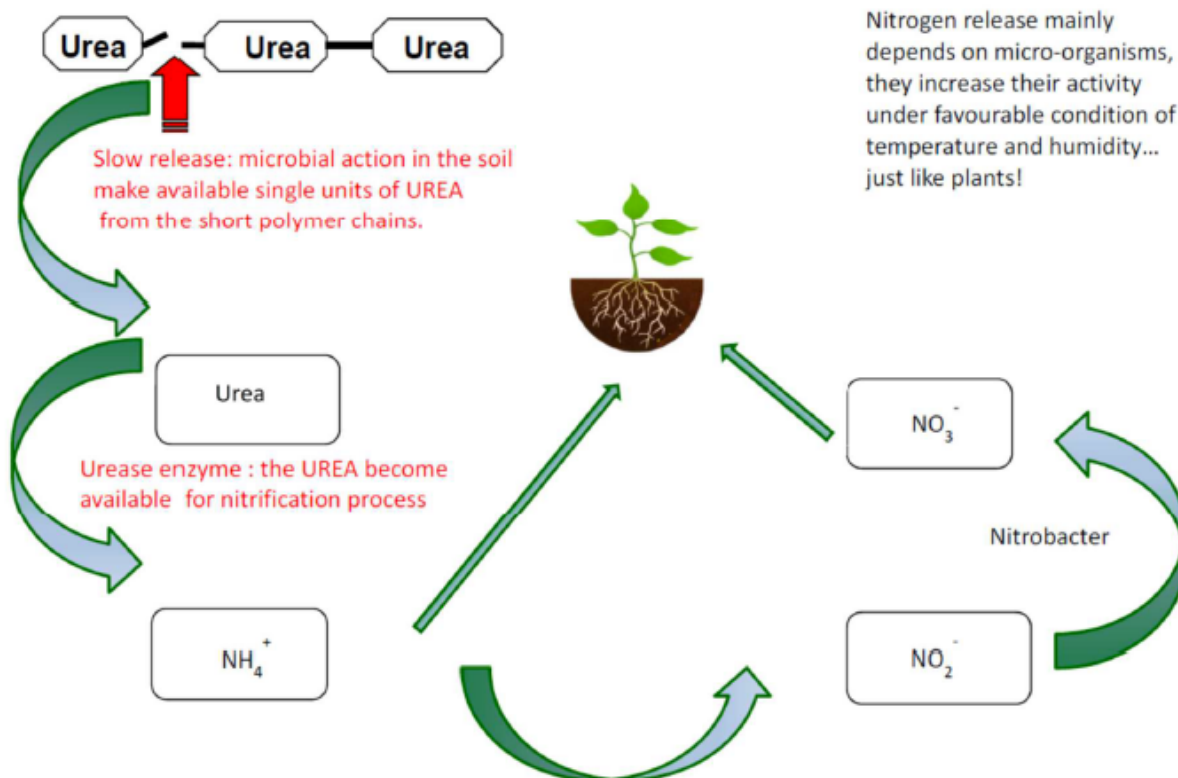
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SOIL APPLICATION

Dynamics

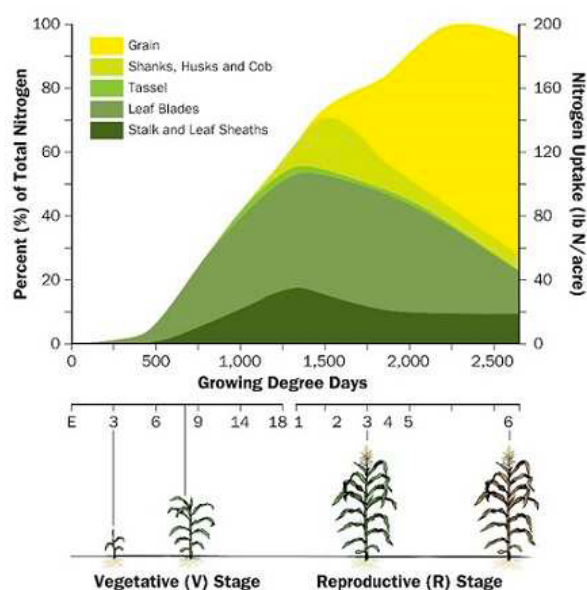
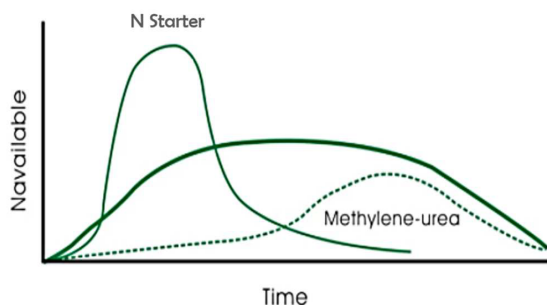
Short Liquid MU chain polymerize in the soil to create more insoluble molecules (polymethylene ureas)



CORN

Maize needs nitrogen late in the growing cycle to aid cob fill.

Soil-applied nitrogen is easily lost in dry summer conditions and slurry manures are not completely available to the plant.



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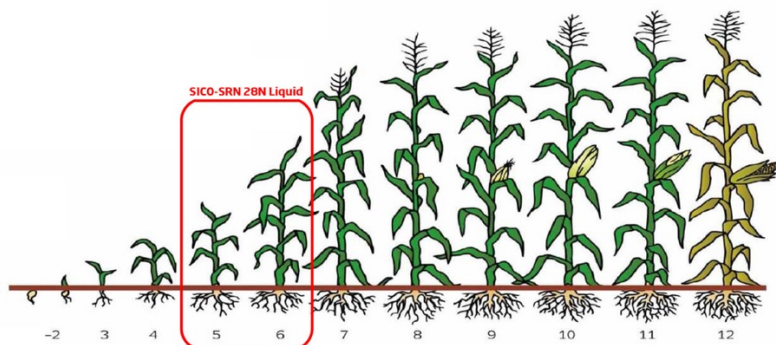
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CORN

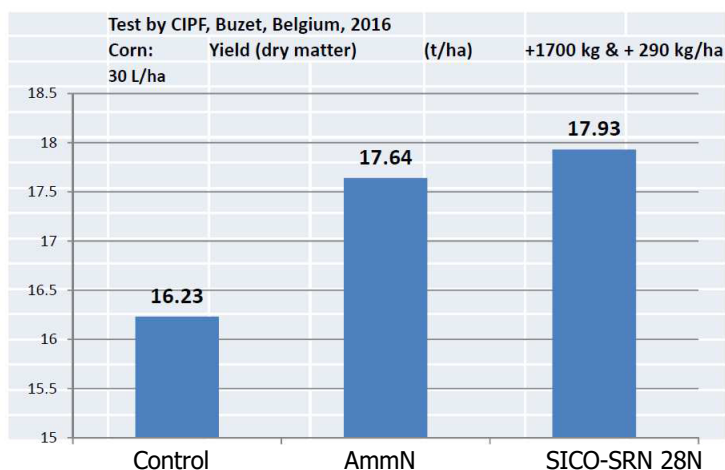
Maize needs nitrogen late in the growing cycle to aid cob fill.

SICO-SRN 28N should be applied at 8 to 12 leaf stages with a dosage of 25-30 Lt/Ha



CORN

SICO-SRN 28N is a revolutionary foliar nitrogen fertiliser, formulated with ureic polymers, which eliminates nitrate losses and minimises ammonia emissions. It has been shown to increase weight and improve starch yields.



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Control SICO-SRN 28N SICO-SRN 28N AmmN

30 lt/ha

20 lt/ha



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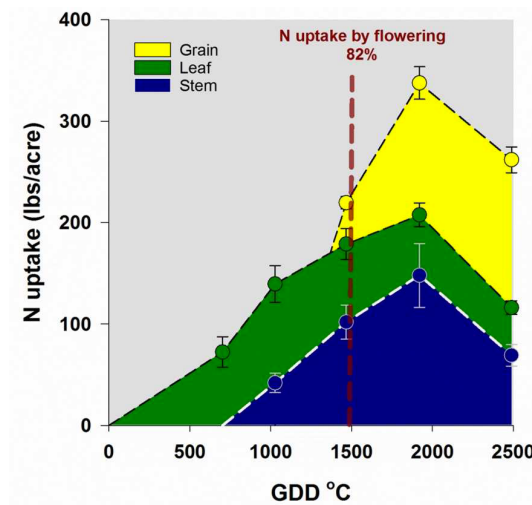
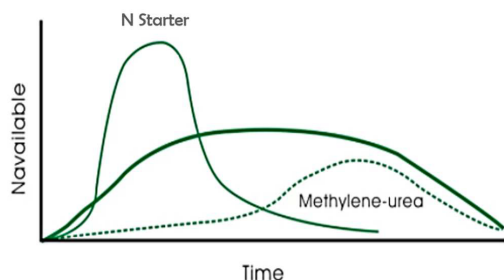
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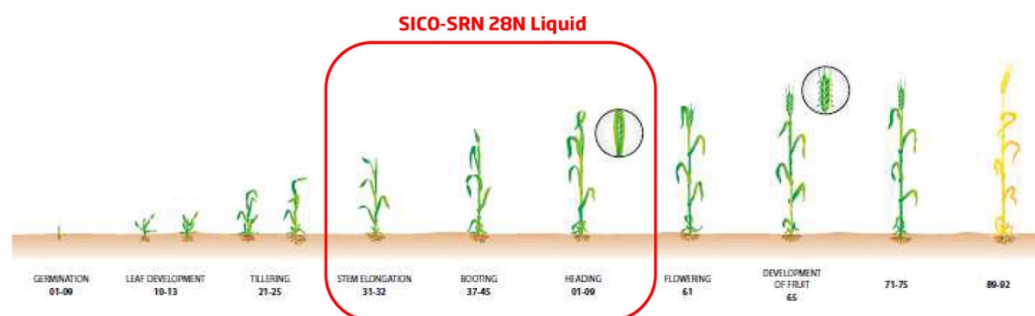
WHEAT

Wheat needs nitrogen late in the growing cycle, especially during flowering and grain fill. Soil-applied nitrogen is easily lost in dry summer conditions and slurry manures are not completely available to the plant.



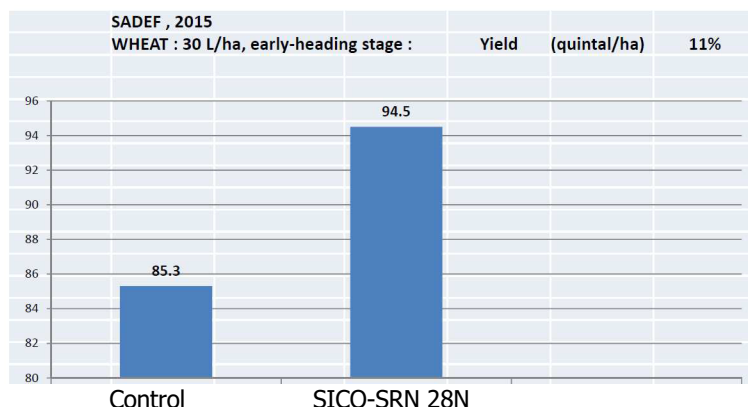
WHEAT

Wheat needs nitrogen late in the growing cycle, especially during flowering and grain fill. SICO-SRN 28N should be applied after tillering till heading stages with a dosage of 25-30 Lt/Ha



WHEAT

Farmers testing SICO-SRN 28N for the first time in 2017 reported significant increases in yield. When applied in a coordinated program with soil-applied nitrogen, the result is high yields and increased grain protein content using less nitrogen than in standard farm practice. As SICO-SRN 28N can be tank-mixed with crop protection products, it reduces the number of passes needed, saving time and application costs.



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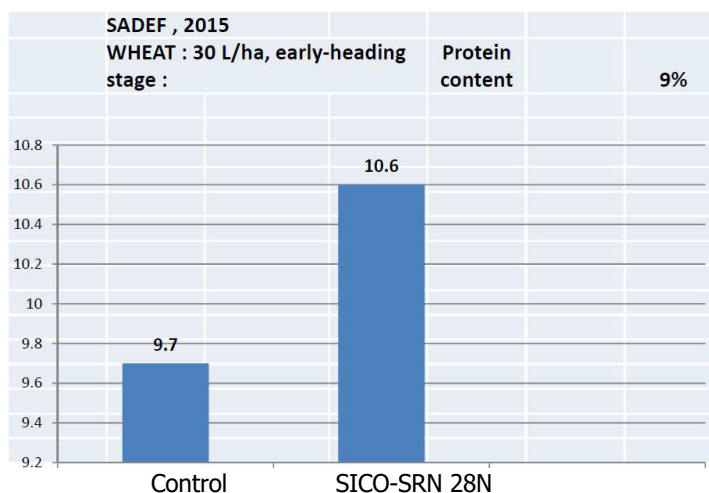
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WHEAT

SICO-SRN 28N also increased crop protein levels when used later in the season – and that it was very easy to use. When applied in a coordinated program with soil-applied nitrogen, the result is high yields and increased grain protein content using less nitrogen than in standard farm practice. As SICO-SRN 28N can be tank-mixed with crop protection products, it reduces the number of passes needed, saving time and application costs.



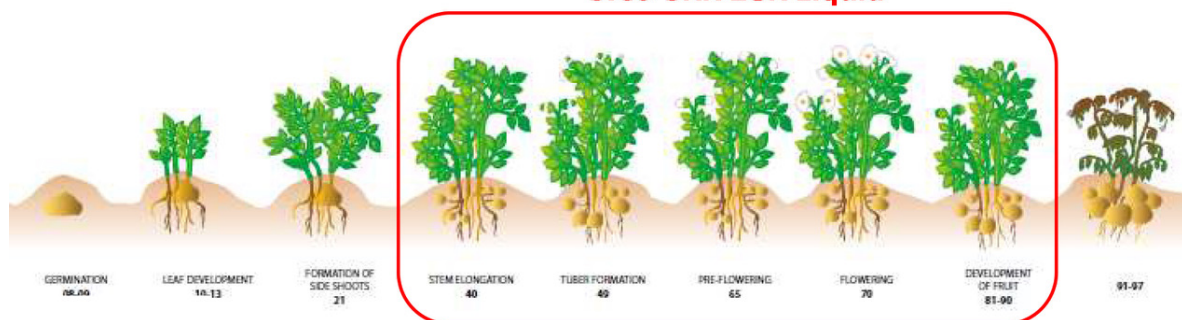
WHEAT



POTATO

SICO-SRN 28N is essential for growth of potato tubers. SICO-SRN 28N should be applied multiple times (2-3) during stem elongation till complete development of fruit stage with a dosage of 10-15 Lt/Ha

SICO-SRN 28N Liquid



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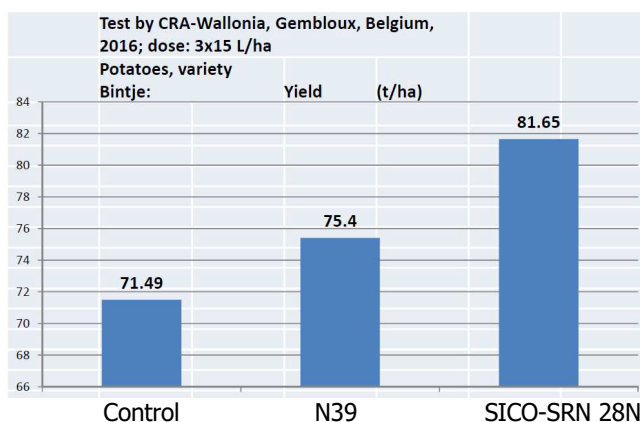
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POTATO

The nitrogen is always available for plants and not leached out.

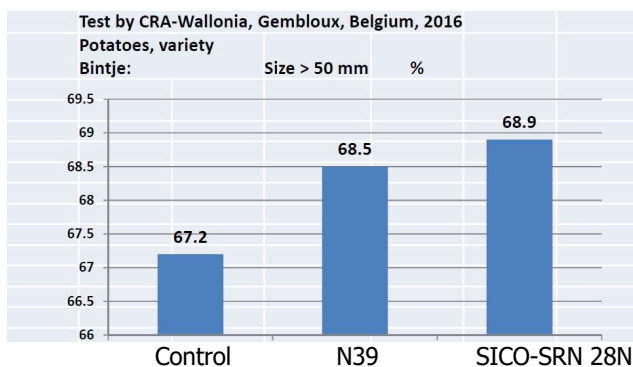
This allows the plants to increase a lot the uptake and concentrate the Nitrogen in the tubers during tubers growth.



POTATO

SICO-SRN 28N is essential for growing of potato tubers.

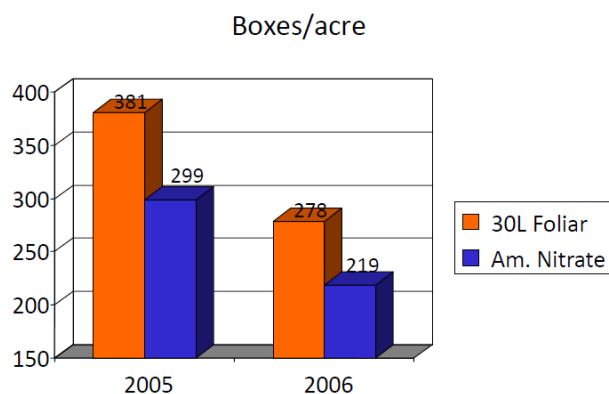
More yield and size has been obtained using SICO-SRN 28N in combination with standard fertilizing program.



Lake Alfred, FL, 2005 - 2007

CITRUS

SICO-SRN 28N has shown how the availability of nitrogen for longer time, feed the plant in crucial moments like sizing and ripening.



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