

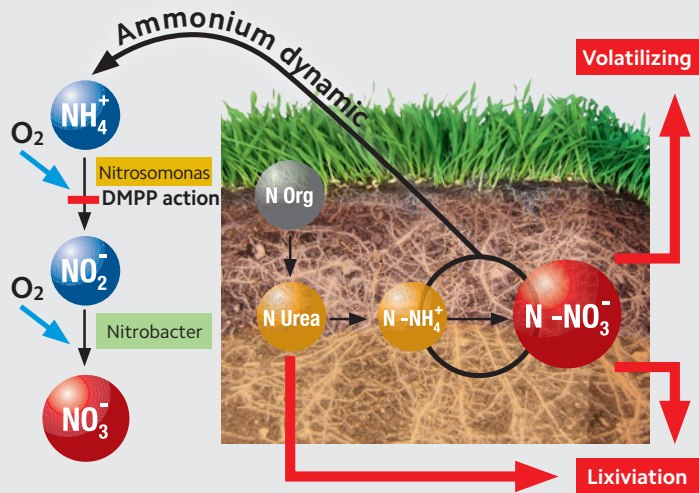
EXPERTS FOR GROWTH



# **NovaTec<sup>®</sup> Solub**

## **Ammonium Stabilized Water Soluble Fertilizer**

Nitrogen efficient fertilization  
for modern irrigation systems



## How does it work?

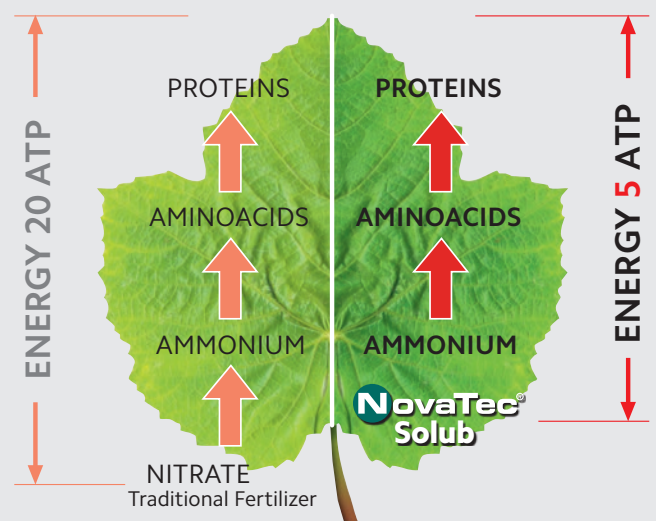
### Ammonium-based fertilization with nitrification inhibitor

- NovaTec® Solub delays the nitrification of Ammonium ( $\text{NH}_4^+$ ) to Nitrate ( $\text{NO}_3^-$ )
- NovaTec® Solub leads to a more efficient  $\text{NH}_4^+$ -based N-nutrition



## Ammonium Nutrition

- Energy savings by Ammonium-N-nutrition (no biological reduction required)
- Enhanced flowering (Ammonium promotes synthesis of phytohormones and polyamines)
- Ammonium nutrition favours root growth



ATP = Adenosine Triphosphate.  
ATP is one of the most important energy transmitters in organisms.

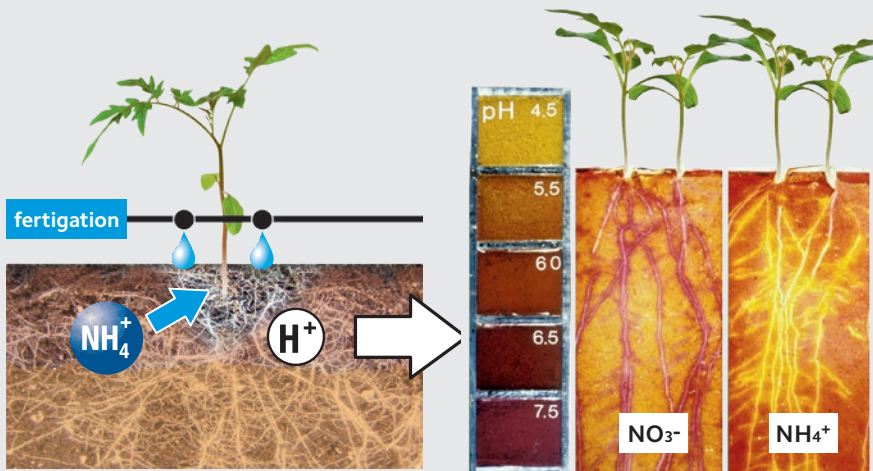
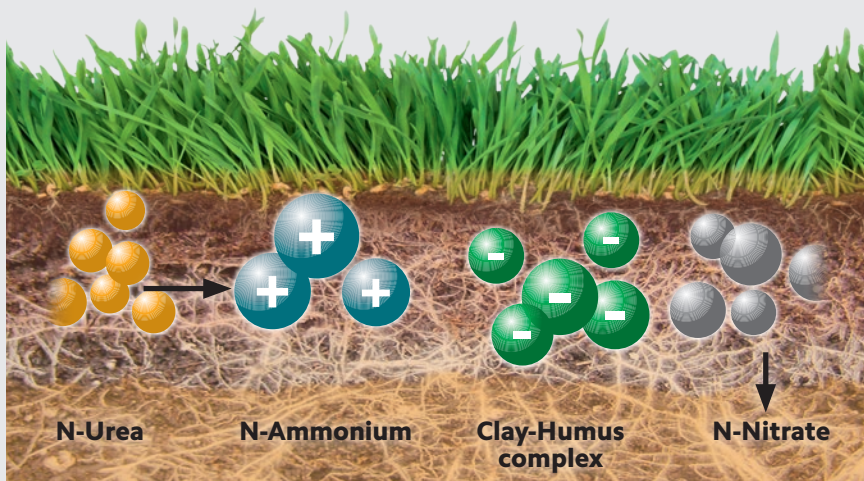


Photo: Römheld, University of Hohenheim

## The pH-effect

- Ammonium nutrition leads to acidification of the rhizosphere
- Absorption of micro elements and Phosphate is increased by this effect
- Prevailing  $\text{NO}_3^-$ -absorption leads to alkalization (standard fertilizer)



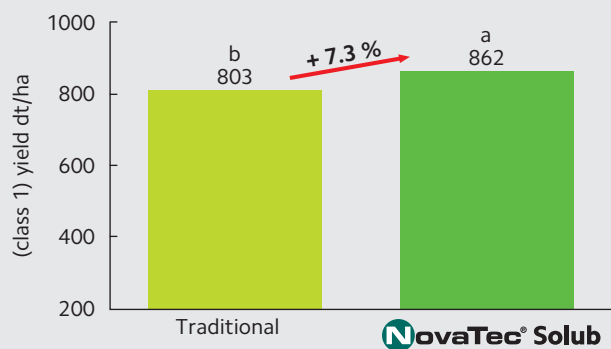
## Less N-leaching

- NovaTec® Solub strongly reduces Nitrate leaching due to a higher Ammonium concentration in the soil
- NovaTec® Solub leads to significant ground water protection



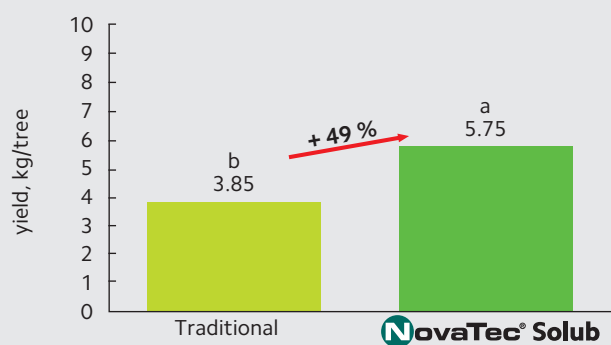
## Trial results

### NovaTec® Solub in cucumbers (Limburgerhof, Germany)



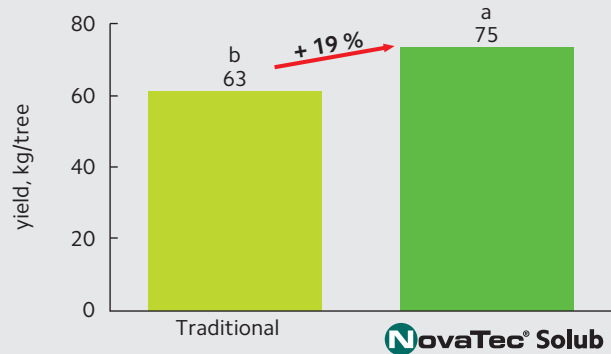
- Same NPK quantities
- NovaTec® Solub: 59 dt/ha more yield (+7.3%)**

### NovaTec® Solub in melons (Murcia, Spain)



- Same NPK quantities
- NovaTec® Solub: 1.9 kg/tree more yield (+49%)**

### NovaTec® Solub in clementines (Murcia, Spain)



- Same NPK quantities
- NovaTec® Solub: 12 kg/tree more yield (+19%)**





## Guaranteed nutrient content %

### Binaries for tank mix application

NovaTec® Solub:	21	10-0-32	14-48	16-30
<b>Nutrients:</b>				
Total nitrogen (N)	21%	10%	14%	16%
Nitrate (NO <sub>3</sub> )	-	4.5%	-	-
Ammonium (NH <sub>4</sub> )*	21%	5.5%	14%	16%
Phosphate (P <sub>2</sub> O <sub>5</sub> )	-	-	48%	30%
Potassium (K <sub>2</sub> O)	-	32%	-	-
Magnesium oxide (MgO)	-	2%	-	-

\* DMPP-content: 0.8% of total ammonium-N

### NPKs for convenience

NovaTec® Solub:	19-5-5	13-33-13	10-5-30	16-8-16	18-18-18	20-19-19
<b>Nutrients:</b>						
Total nitrogen (N)	19%	13%	10%	16%	18%	20%
Nitrate (NO <sub>3</sub> )	3%	5%	4%	5%	9.8%	2%
Ammonium (NH <sub>4</sub> )*	16%	8%	6%	11%	8.2%	-
Urea (NH <sub>2</sub> )	-	-	-	-	-	18%
Phosphate (P <sub>2</sub> O <sub>5</sub> )	5%	33%	5%	8%	18%	19%
Potassium (K <sub>2</sub> O)	5%	13%	30%	16%	18%	19%
Magnesium oxide (MgO)	2%	2.5%	2%	2%	1%	2.5%
Sulfur (S)	17%	2%	12%	11%	0.8%	2%

\* DMPP-content: 0.8% of total ammonium-N

Binaries:	Product	Composition	Characteristics	Packaging	Use*
    	NovaTec® Solub 21	21 (+24S)	Soluble N fertilizer - Ammonium stabilized - for fertigation - 21% Ammonium	Bag: 25 kg Pallet size: 48 x 25 kg Container 20': 24 mt	Fertigation: 1.0 – 3.0‰
	NovaTec® Solub 10-0-32	10-0-32(+14S)	Soluble NK fertilizer - Ammonium stabilized - for fertigation - 5.5% Ammonium - 4.5% Nitrate	Bag: 25 kg Pallet size: 48 x 25 kg Container 20': 24 mt	Fertigation: 1.0 – 3.0‰
	NovaTec® Solub 14-48	14-48 (+6S)	Soluble NPK fertilizer - Ammonium stabilized - high P content - for fertigation - 14% Ammonium	Bag: 25 kg Pallet size: 48 x 25 kg Container 20': 24 mt	Fertigation: 1.0 – 3.0‰
	NovaTec® Solub 16-30	16-30 (+12S)	Soluble NPK fertilizer - Ammonium stabilized - high P content - for fertigation - 16% Ammonium	Bag: 25 kg Pallet size: 48 x 25 kg Container 20': 24 mt	Fertigation: 1.0 – 3.0‰
	NovaTec® Solub N-Max 19-5-5	19-5-5 (+2MgO+17S)	Soluble NPK fertilizer - Ammonium stabilized - high N content - for fertigation - 16% Ammonium - 3% Nitrate	Bag: 25 kg Pallet size: 48 x 25 kg Container 20': 24 mt	Fertigation: 1.0 – 3.0‰
<b>All Nutrients:</b>					
    	NovaTec® Solub P-Max 13-33-13	13-33-13 (+2.5MgO+2S)	Soluble NPK fertilizer - Ammonium stabilized - high P content - for fertigation - 8% Ammonium - 5% Nitrate	Bag: 25 kg Pallet size: 48 x 25 kg Container 20': 24 mt	Fertigation: 1.0 – 3.0‰
	NovaTec® Solub K-Max 10-5-30	10-5-30 (+2MgO+12S)	Soluble NPK fertilizer - Ammonium stabilized - high K content - for fertigation - 6% Ammonium - 4% Nitrate	Bag: 25 kg Pallet size: 48 x 25 kg Container 20': 24 mt	Fertigation: 1.0 – 3.0‰
	NovaTec® Solub NK-Max 16-8-16	16-8-16 (+2MgO+11S)	Soluble NPK fertilizer - Ammonium stabilized - high NK content - for fertigation - 11% Ammonium - 5% Nitrate	Bag: 25 kg Pallet size: 48 x 25 kg Container 20': 24 mt	Fertigation: 1.0 – 3.0‰
	NovaTec® Solub Complete 18-18-18	18-18-18 (+1MgO+0.8S)	Soluble NPK fertilizer - Ammonium stabilized - balanced NPK ratio - for fertigation - 8.2% Ammonium - 9.8% Nitrate	Bag: 25 kg Pallet size: 48 x 25 kg Container 20': 24 mt	Fertigation: 1.0 – 3.0‰
	NovaTec® Solub 20-19-19	20-19-19 (+2.5MgO+2S)	Soluble NPK fertilizer - Ammonium stabilized - balanced NPK ratio - for fertigation - 2% Nitrate - 18% Urea	Bag: 25 kg Pallet size: 48 x 25 kg Container 20': 24 mt	Fertigation: 1.0 – 3.0‰

\* For detailed recommendations please contact your local dealer/agent.