

## The use of a nitrogen stabilizer on side dress UAN application

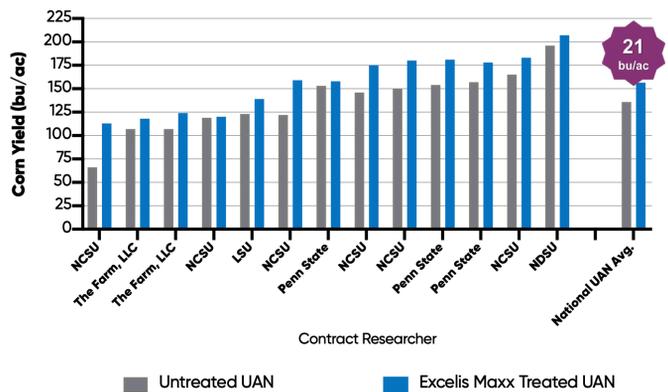


With spring underway, we wanted to take a moment to discuss nitrogen management with you. Did you realize that side dress applied nitrogen is just as prone to loss as pre-plant applied nitrogen? While split management applies nitrogen just prior to peak demand by the plant, the UAN is just as prone to environmentally driven loss. Iowa State University estimates nitrogen loss between 2-5% per day, in unfavorable conditions, and UAN may not be as stable as you may have been led to believe.

Nitrogen loss occurs through three methods, leaching, volatilization, and denitrification. UAN solutions contains three forms of nitrogen: Urea (50%), Ammonium (25%) and Nitrate (25%). Excessive moisture drives leaching of nitrates ( $\text{NO}_3^-$ ) which occurs as water drives the nitrogen deep into the soil, out of the plants root zone. UAN with 50% of its nitrogen being Urea ( $\text{CH}_4\text{N}_2\text{O}$ ) is subject to volatilization or urea-hydrolysis. In this process Urea is combined with water and forms ammonia, which evaporates into the air. Even small amounts of moisture such as morning dews can drive this form of loss. Once Urea is in the soil, it joins with hydrogen and is now prone to denitrification. All nitrates are subject to denitrification. In this biologically driven form of nitrogen loss, soil microbes utilize the oxygen in nitrate, leaving behind nitrous and dinitrous oxides which are released into the atmosphere and not into our plants. The point becomes clear, even when using split applied methods of nitrogen management, it's crucial to protect your nitrogen investment.

Utilizing nitrogen stabilizers is a key component to slowing environmentally driven nitrogen loss. Excelis Maxx, by Timac Agro USA, combines three modes of action for improved nitrogen use efficiency. Our technology combines a stabilizer (NBPT and DCD), with soil microbial activators, that increase plant productivity and nitrogen utilization. This ensures more of your nitrogen gets into the plant, in turn, leading to significant yield gains, improving your bottom line.

Effect on Excelis Maxx treated UAN on corn yield in contract trials



## Excelis Maxx Features

- The LCN Inhibitor Complex
  - NBPT – urease inhibitor to control nitrogen loss due to volatilization
  - DCD – nitrification inhibitor to reduce risk of leaching and denitrification
  - Phenolic Extract - reduces oxidation of NBPT which improves its longevity
- Rhizovit® Complex – soil microbial activator

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