

## NITROGEN STABILIZER FOR UREA

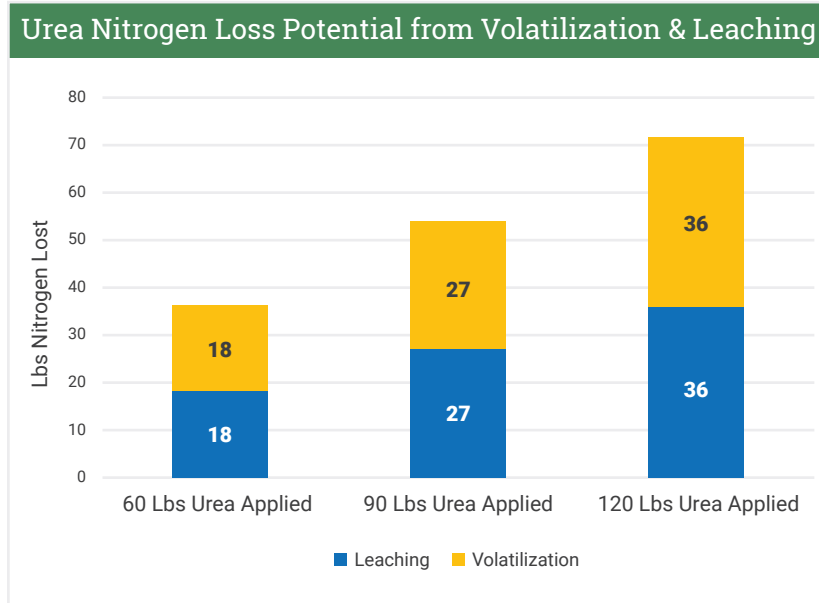
### What is Nitrolock®?

Nitrolock® is a dual mode nitrogen stabilizer containing NBPT & DCD for above and below ground protection. On the soil surface, NBPT minimizes volatility loss by inhibiting the activity of the urease enzyme. Once the nitrogen is below ground, DCD reduces the risk of leaching and denitrification by disrupting the activity of the nitrosomonas bacteria.

### Features & Benefits:

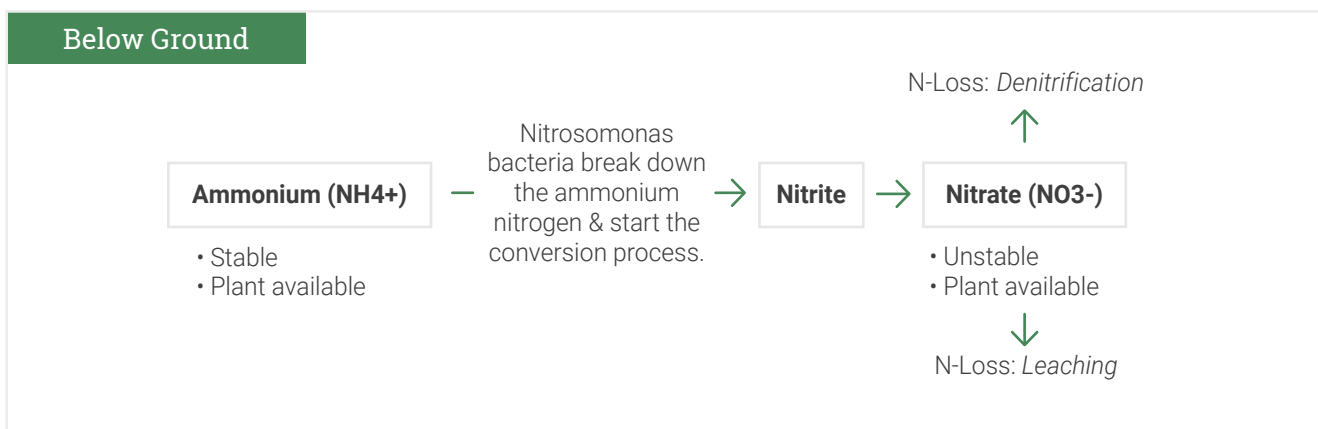
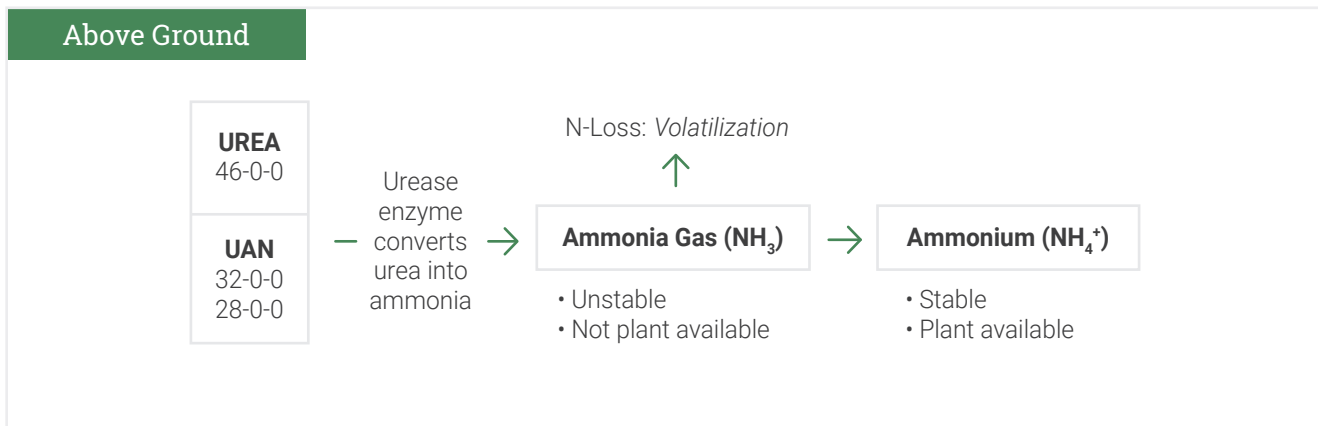
- Suggested use rate: 2 quarts / ton Urea
- Use when urea is surface applied
- Non-corrosive, not a labeled pesticide
- Freeze Point: 0° F
- Active ingredients NBPT & DCD are AAPFCO approved urease and nitrification inhibitors
- Ask your NRCS rep about Conservation Practice 590 for cost-share using Nitrolock®

This graph shows pounds of nitrogen that can be lost assuming 30% loss of the vulnerable portion of urea. Nitrogen loss to volatilization is shown in orange and nitrogen loss to leaching is shown in blue.



## NITROGEN STABILIZER FOR UREA

### Nitrogen Conversion



### Nitrogen Stabilizer: Mode of Action

**NBPT (urease inhibitor)**- NBPT inhibits the activity of the urease enzyme. This delays the breakdown of the urea molecule into the ammonia gas form that is vulnerable to volatilization loss. NBPT can delay urea hydrolysis for 14 – 28 days, minimizing nitrogen loss to the atmosphere until it can enter the topsoil where it is no longer susceptible to volatilization.

**DCD (nitrification inhibitor)**- DCD delays the conversion of ammonium (NH<sub>4</sub><sup>+</sup>) nitrogen to the unstable nitrate (NO<sub>3</sub><sup>-</sup>) form by inhibiting the nitrosomonas bacteria. This keeps the nitrogen in the stable, plant available ammonium form longer which reduces the risk of leaching and denitrification.