

A photograph of a cornfield at sunset. The sky is filled with orange and yellow clouds, and the sun is low on the horizon, casting a warm glow over the field. The corn plants are in the foreground, and there are some trees and hills in the distance. The Koch logo is overlaid in the center of the image.

K KOCH™

AGRONOMIC SERVICES



ANVOL™ Nitrogen Stabilizer

The most powerful urease inhibitor technology driven by the KAS-developed, patented active ingredient DUROMIDE™ that delivers:

- The longest-lasting urease inhibitor protection
- Superior stability to hold up in various environments and fertilizer blends
- A more concentrated formulation
- Lower application rate
- Improved coating efficiency

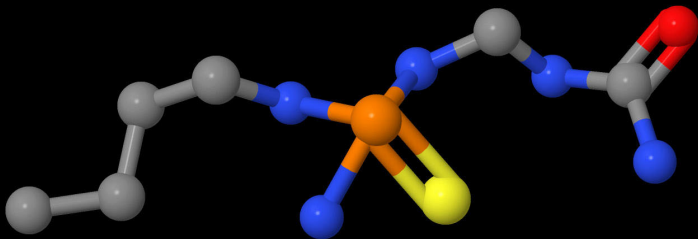
Active Ingredients	
DUROMIDE™	26%
NBPT	17%

Usage Rates	
Urea	1.5 qt/ton
UAN	0.75 qt/ton

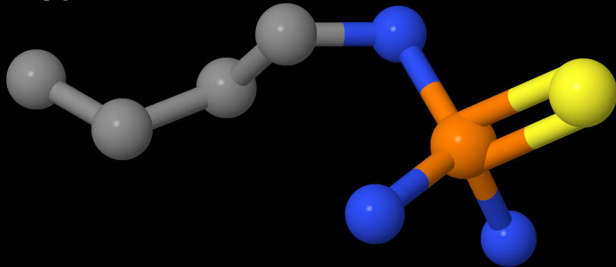
How is DUROMIDE™ Different than NBPT?



26% DUROMIDE™



17% NBPT



- **NEW** urease inhibitor chemistry
- Provides a **longer window** of protection against ammonia loss
- Buys **more time** for incorporation by rainfall or other means
- Designed for greater **stability** over a wider range of soil environments and fertilizer blends

SUPERU[®] Fertilizer

- Granular urea fertilizer with integrated urease and nitrification inhibitors
- Protects against 3 forms of nitrogen loss: volatilization, denitrification and leaching
- Hardness and uniformly sized granules provide wider, more even spread patterns
- Completely soluble and readily plant-available



ANALYSIS

46-0-0

ACTIVE INGREDIENTS

DCD	0.85% (8500 ppm)
NBPT	0.06% (600 ppm)

Corn Yield Benefit with SUPERU®



Treatment	Rank	Yield	Stats
SUPERU broadcast	1	229	a
UAN 100 inj+Urea/AT 50 broadcast V5	2	227	ab
UAN 100 inj+UAN 50 dribbled in-row V9	3	227	ab
UAN 100 inj+Urea/AT 50 broadcast V9	4	227	ab
UAN 100 inj+UAN 50 dribble in-row V5	5	226	ab
UAN 100 inj+UAN 50 dribble in-row VT	6	226	abc
ESN broadcast	7	225	abcde
UAN 100 inj+UAN 50 dribble mid-row VT	8	225	bcd
UAN 100 inj+UAN 50 injected V5	9	224	bcde
UAN injected mid-row	10	224	bcde
UAN injected mid-row at V5	11	224	bcde
Urea/AGROTAIN broadcast	12	224	bcde
Anhydrous ammonia injected mid-row	13	223	bcde
Anhydrous ammonia/N-Serve injected mid-row	14	223	bcde
UAN dribbled mid-row	15	222	cde
UAN/AGROTAIN broadcast	16	221	def
UAN/Instinct II broadcast	17	221	def
UAN 50 broadcast+UAN 100 injected V5	18	220	ef
UAN dribbled mid-row at V9	19	217	f

- In an Illinois study conducted from 2015-2018, broadcasting SUPERU® fertilizer at planting averaged 229 bu/acre corn yield.
- SUPERU ranked #1 among the 19 tested combinations of nitrogen form, timing and placement.

• Source: Emerson Nafziger presentation at 2018 North Central Soil Fertility Conference. Funded by Illinois NREC.
 • University of Illinois. 2015-2018 (4 locations, 15 site years).
 • 150 lbs N/acre application rate.
 • Means with the same letter are not statistically difference at $p < 0.1$.

CENTURO™ Nitrogen Stabilizer

The next-generation nitrification inhibitor for anhydrous ammonia and UAN is EFFECTIVE and FLEXIBLE.

- Reduces nitrate leaching potential
- Slows denitrification loss
- Optimizes yield and NUE
- Gentle on equipment
- Easy to transport, use, and store



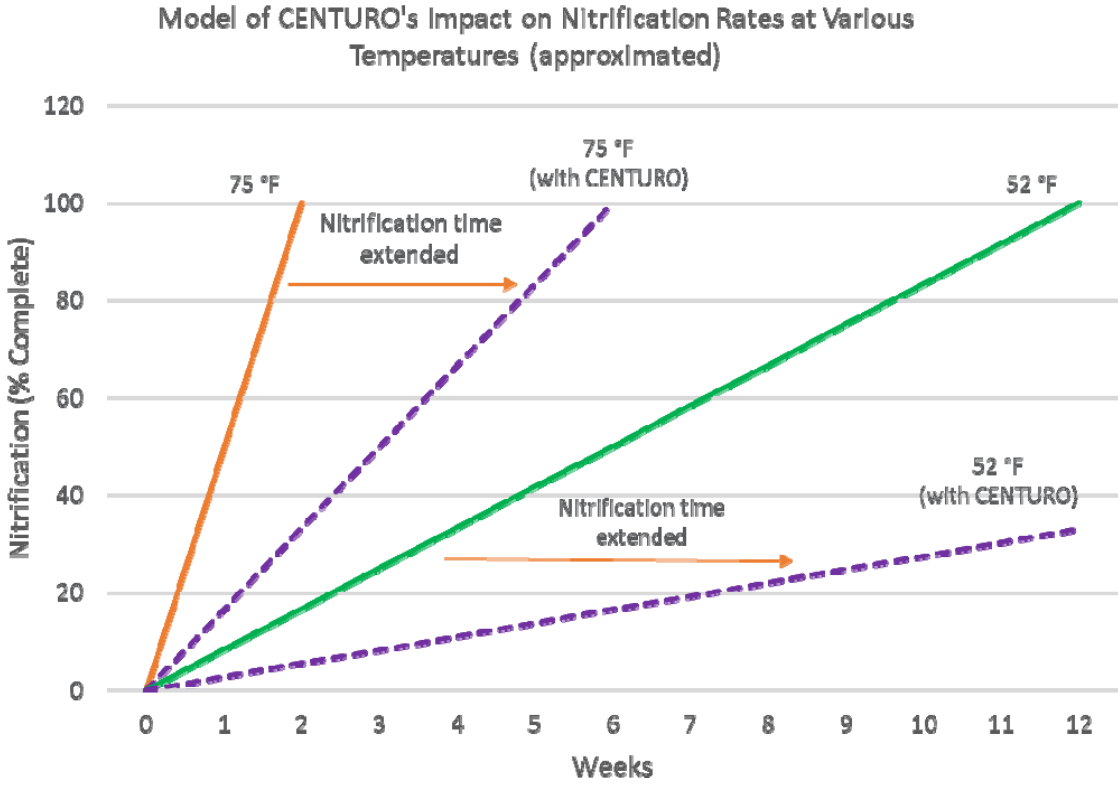
Active Ingredient	
Pronitridine	14%

Usage Rates	
NH ₃	5 gal/ton
UAN	1.5-2.5 gal/ton
Manure	0.5 gal/ac

Always read and follow label instructions. CENTURO is not registered for sale or use in all states. Contact your state pesticide regulatory agency to determine if a product is registered for sale or use in your state.



CENTURO™ Mode of Action Benefits



- CENTURO will hold the nitrogen in the ammonium state **three times** longer than untreated ammonia**
- Fall-applied anhydrous will be more stable for a longer period of time, allowing maximum availability for spring
- Applying in the spring will minimize potential losses to leaching and denitrification from rain before crop establishment

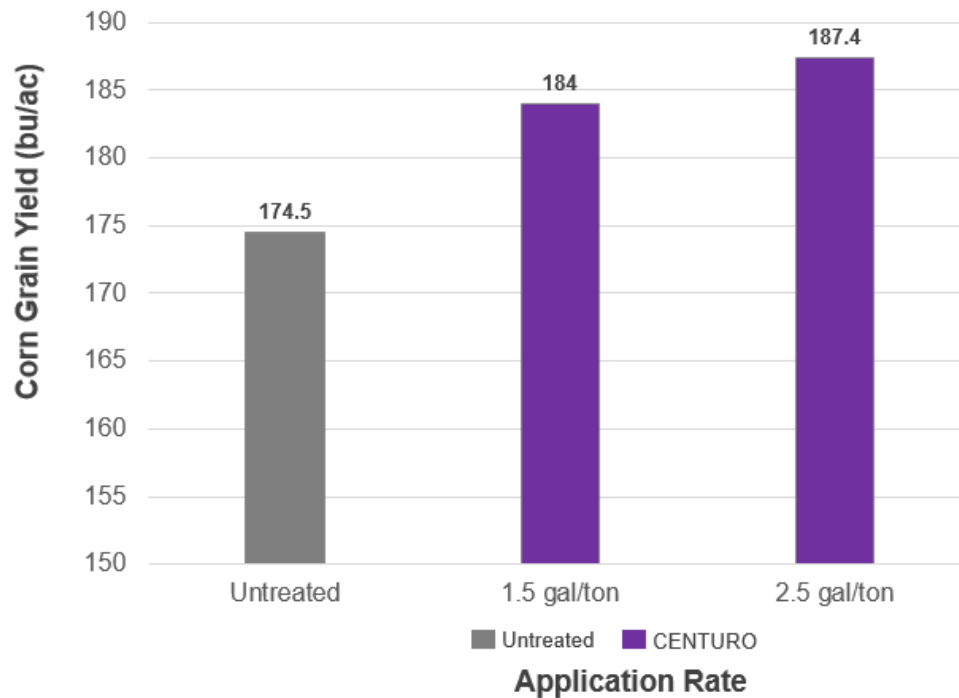
Graph is derived from the Nutrient Management for Agronomic Crops in Nebraska (Tim Shaver, p.7) and the International Fertilizer Development Center study "Quantifying the Effects of Nitrification Inhibitors and Rates of Inhibitor Application on Nitrogen Transformations and Soil Acidification at 24°C on Greenville Loam" conducted on behalf of Koch Agronomic Services.

**Results may vary based on a number of factors, including environmental conditions.

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Corn Usage Rate Study CENTURO™ in UAN

2019 CENTURO UAN Rate Study
Iowa, Nebraska, North Carolina



- Research indicated both the 1.5 gal/ton and 2.5 gal/ton usage rate of CENTURO showed no statistical difference.

The underlying data was provided by Alpha Ag Research, Real Farm Research and Tidewater Agronomics under Research Trial Financial Support Agreements with Koch Agronomic Services, LLC. Neither the universities, institutions, nor the individual researchers referenced, endorse or recommend any product or service. Improvements in yield and nutrient use efficiency may not be observed in all cases.

The image features a background of a cornfield at sunset. The sky is a mix of orange, yellow, and blue, with some clouds. The foreground shows rows of green corn plants. Overlaid on the image are several geometric shapes: a large blue triangle on the left, a large blue triangle on the right, and a white horizontal line. The text 'K KOCH' is in a large, bold, white sans-serif font, with a trademark symbol (TM) to the right. Below this, the words 'AGRONOMIC SERVICES' are in a smaller, white, all-caps sans-serif font.

K KOCH™

AGRONOMIC SERVICES

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