



THE DUROMIDE ADVANTAGE

LEARN THE SCIENCE
BEHIND THE
LONGEST-LASTING
PROTECTION
AGAINST AMMONIA
VOLATILIZATION



Years ago, we set out to improve the technology in our urea and UAN nitrogen stabilizer products. Our goal was simple — develop a more stable molecule to help boost the efficacy and extend the protection from ammonia volatilization already provided by NBPT. After years of development and testing, we're proud to say we achieved our goal.

INTRODUCING DUROMIDE

And doing a lot of research in this area, I thought to myself,
**'we'll probably never see a urease inhibitor that
works better than NBPT',**

***and after seeing Duromide,
I think I'm going to have to
change my thoughts on that."***

– **Dustin Harrell**, agronomy project leader at Louisiana State University
AgCenter's rice research station

BUILDING ON **PROVEN PERFORMANCE**

For years the standard in nitrogen stabilization has been the active ingredient NBPT — the same active found in the leading urease inhibitor AGROTAIN®. Duromide is a molecule developed to work in tandem with NBPT to deliver protection from ammonia volatilization that starts quickly and lasts longer than NBPT alone.

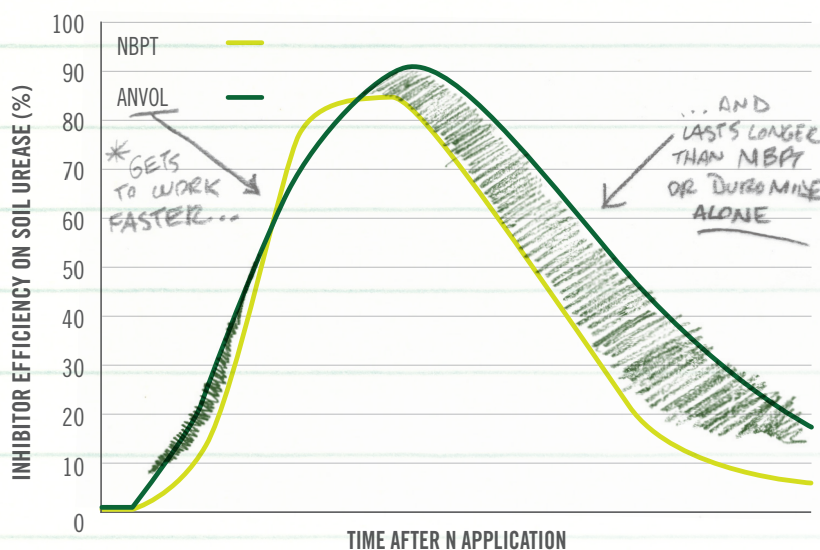
**INCREASES WINDOW
OF INHIBITION BY**

**UP
TO** **27%**

**COMPARED TO
NBPT ALONE**

DUAL ACTIVE INGREDIENTS?

Exactly — both active ingredients bring something different to the table. NBPT gets to work right away, blocking the hydrolysis of urea as soon as it's applied. As time passes, elements like temperature and soil pH will degrade NBPT. This is where Duromide steps in and extends the protection of nitrogen. Designed to withstand a wider range of soil environments, Duromide keeps the protection going, allowing fertilizer more time to be incorporated.



• Graph adapted from volatilization measurements made by Hunter Frame, VA Tech (2016)

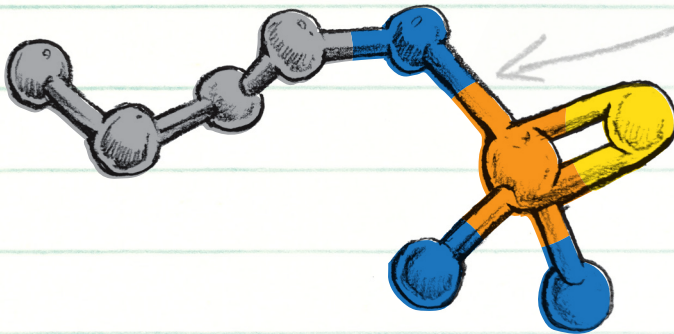
Separately, Duromide and NBPT effectively inhibit the hydrolysis of urea — each active works over a unique length of time. When these two actives come together in ANVOL® nitrogen stabilizer, the benefits of both ingredients combine to create an optimal range of protection.

DUROMIDE



◦ DEVELOPED BY KAS
R&D CHEMISTS AND
AGRONOMISTS

◦ REGISTERED WITH THE EPA
◦ VERY STURDY



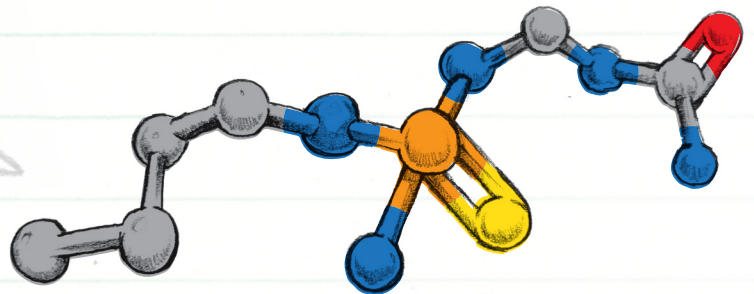
NBPT is an effective, fast-acting molecule

that set the bar for nitrogen stabilization

nearly 25 years ago. Our goal was to enhance the

protection that NBPT provided and we succeeded.

We designed Duromide to be more robust than
NBPT. It's more resistant to degradation triggers
like soil pH levels and temperature, which can
break down NBPT. In short, Duromide extends
your window of protection beyond NBPT alone.



◦ SLOWS DOWN UREA HYDROLYSIS
OVER A LONGER WINDOW

◦ BUYS MORE TIME FOR
RAINFALL INCORPORATION

◦ REDUCES AMMONIA LOSS

THIS IS WHERE THE **BENEFITS STACK UP**

When Duromide is paired with NBPT — as found in ANVOL nitrogen stabilizer — you get benefits that go beyond the added stability in the field. Benefits like a high active ingredient concentration, consistent performance and more efficient coating operations.



ANVOL stabilizer features a high active ingredient concentration that enables a low application rate (1.5 qts/ton on urea, 0.75 qts on UAN). This results in more efficient coating operations, a drier blend and overall reduced labor demands.



Research conducted by universities across the midwest has shown ANVOL to hold up in various environments and fertilizer blends.

UP TO 31 BU/AC
AVERAGE CORN YIELD BENEFIT¹

2016-2018 results across 8 site years with locations in Virginia, Kentucky, Illinois and Tennessee showed that ANVOL reduced nitrogen loss and boosted yields by an average of 31 bushels per acre compared to untreated urea.¹

The underlying data was provided by ¹Virginia Tech, University of Kentucky, University of Tennessee, University of Illinois and Pike Ag, LLC under a Research Trial Financial Support Agreement with Koch Agronomic Services, LLC and neither these institutions, nor the individual researchers referenced, endorse or recommend any product or service.

At Koch Agronomic Services we strive to deliver science-based plant nutrient solutions our customers can trust. Examining and understanding the science that affects crops helps us to create technologies that can optimize our customers' fertilizer investments.

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