

MISSOURI FARMERS ASSOCIATION (MFA)

Nitrogen Stabilizer Trial

N Stabilizers

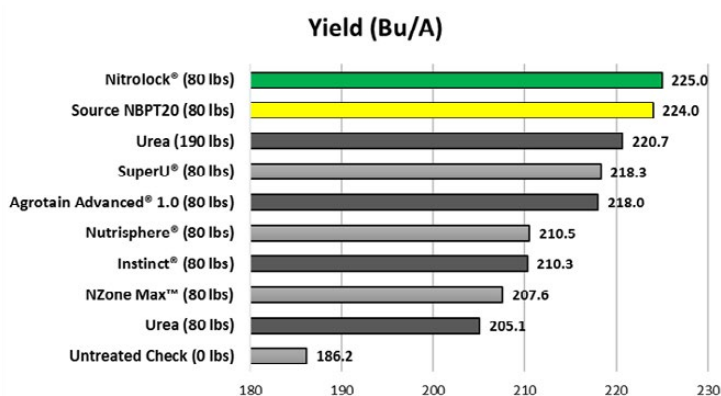
Nitrogen Stabilizers used on urea such as Agrotain, SuperU and Instinct have been evaluated at Training Camp for several years. We have found it important to continue our evaluation of these products for a couple reasons. First, several products enter the marketplace each year, and many of those make claims to limit either volatility, leaching or denitrification as effectively as the products mentioned above without any proven activity when it comes to nitrogen stabilization. Second, weather conditions vary from year to year, and the different products may perform better depending on those conditions in relation to N application timing. For example, a product like Agrotain limited urea volatilization; a product like Instinct stabilizes N below ground; and a product like Super U provides protection above and below ground.

To evaluate nitrogen stabilizers, we tested each product on urea applied at 80 pounds of actual N per acre. This low rate was used intentionally hopefully to prevent over-application of N and provide a better chance of separation between stabilized and unprotected urea. These treatments were compared against an untreated check and against unprotected urea applied at 190 pounds of actual N per acre. The results from this year's trials can be seen in Figure 3.

The N responses were not as great as we might expect. Much of this is likely due to the fertile nature of the testing site. However, there are some things to note from this trial. The application date of all treatments was May 12, and the field did not receive a significant rain event until .75 inch of precipitation on May 18. This six-day period in which the urea was on the surface unincorporated would make volatilization likely. The check receiving no additional N was the only treatment statistically different from the others. Agrotain, SuperU and Source NBPT - all of which contain NBPT, the active ingredient that combats the urease enzyme and limits urea volatility - all yielded higher than products without NBPT.

FIG. 3: N stabilizers

TREATMENT	ACTUAL N/A	YIELD BU./A
Untreated Check	0 lbs.	186.2 b
Urea	190 lbs.	220.7 a
Urea	80 lbs.	205.1 a
SuperU	80 lbs.	218.3 a
Urea + Agrotain Advanced 1.0	80 lbs.	218.0 a
Urea + Instinct	80 lbs.	210.3 a
Urea + NZone Max	80 lbs.	207.6 a
Urea + Nutrisphere	80 lbs.	210.5 a
Urea + Source NBPT 20	80 lbs.	224.0 a



Staff, M. A. (2018, January 31). *Seeing Is Believing*. Retrieved from Today's Farmer Online: <https://todaysfarmermagazine.com/mag/crops/1389-seeing-is-believing>