EXCELIS MAXX
RHIZOVIT LCN

Effects of Excelis Maxx on grain yield in corn fertilized with a single application of various rates of urea (1st year)

Trial ID: 55-I Pennsylvania State University

HYBRID: Doeblers 747

DESIGN: Replicated plots, 5 per treatment

RESEARCHER(S): Data compiled and submitted by Pennsylvania State University. Write up of results by Jordan Martin, CCA and Dr. John D. Bailey, Timac Agro USA.

OBJECTIVE

The current study was conducted to determine the effects of Excelis Maxx treated urea on final grain yield in corn, compared to other nitrogen stabilizers. It was also conducted to evaluate how stabilizers bring value at various rates of nitrogen when only one application is made.

INTRODUCTION

Excelis Maxx is a fertilizer additive that is more than just a stabilizer. It is designed to protect urea-based fertilizers from various loss pathways. It contains NBPT, DCD, LCN Complex, and other proprietary technology that controls volatility, denitrifi cation and leaching. With the addition of our patented root microbial activator (Rhizovit) and organic acids, Excelis Maxx enhances nutrient availability and stimulates root growth and nutrient uptake.

MATERIALS AND METHODS

Excelis Maxx was applied at 1 qt/ton of urea and compared to competing stabilizers including: Agrotain Plus at 3 qts/ton, NZONE at 2 qts/ton, N-Ergize at 2 qts/ton, and untreated fertilizer (Control). All nitrogen was applied pre-plant with no incorporation. No additional nitrogen was added.

KEY FINDINGS

+25 bu/ac
Excelis Maxx vs. Untreated Control
at 100 lbs N/ac

DETAILED RESULTS

Corn grown with **Excelis Maxx treated urea showed higher average yield compared to Untreated urea at 100, 150 and 200 lb N/ac with 178, 190 and 206 bu/ac, respectively (see Table 1). In general, NBPT containing stabilizers (Agrotain Plus and Excelis Maxx) outperformed stabilizers that did not contain NBPT (N-Ergize, Nutrisphere-N, and NZONE Maxx). Excelis Maxx had the highest average yield compared to all other stabilizers at 150 and 200 lb N/ac with 190 and 206 bu/ac, respectively.**

These results suggest that volatility loss was a limiting factor at 100 lb N/ac. By adding more nitrogen into the program (150 and 200 lbs N/ac), stabilizers, in general, didn't add much value. This is most likely due to reaching peak nitrogen use effi ciency, where increased yields are not realized by reduced loss of nitrogen. **The addition of the microbial activator in Excelis Maxx is likely the reason for the higher yields at the higher rates of N since no other stabilizers contain this technology.**

This study helps demonstrate that stabilizers have the greatest chance of bringing value when a single-application of urea is made at a rate of 100 lbs N/ac. Above that, other technology is necessary in order to change nitrogen effi ciency. Excelis Maxx technology may help achieve this if only 1 application of N is made.

Table 1: Urea Treatments, Nitrogen Rates, Average Grain Yields and Gross Revenue (1st Year)

	Average Yields at Different N Rate Ranges			Gross Revenues @ $3.50/bu		
Treatment	100 lbs N	150 lbs N	200 lbs N	100 lbs N	150 lbs N	200 lbs N
Excelis Maxx	**178**	**190**	**206**	**$623.00**	**$665.00**	**$721.00**
Agrotain Plus	179	184	201	$626.50	$644.00	$658.00
Average Non-NBPT Stabilizers (Nutrisphere, N-Ergize, NZONE Max)	162	188.5	195.5	$567.00	$659.75	$684.25
Untreated Urea	153	189	201	$535.50	$661.50	$703.50
Excelis vs. Control	**+25 bu/ac**	**+1 bu/ac**	**+5 bu/ac**	**+$87.53**	**+$3.50**	**+$18.00**

***All fertilizer was applied at pre-plant.**