

EXCELIS MAXX

→ RHIZOVIT LCN

DUO MAXX

→ RHIZOVIT DUO

Comparison of Excelis Maxx and Duo Maxx in knifed-in UAN in corn

Trial ID: North Dakota State University - 2016

DESIGN: Randomized Complete Block Design, 4 replicates per treatment

RESEARCHER(S): Data compiled and submitted by Dr. Amit Chatterjee of North Dakota State University. Write up of results by Dr. John D. Bailey, Timac Agro USA.

OBJECTIVE

The current study was conducted to determine the effects of Excelis Maxx compared to Duo Maxx in a one-application system with knifed-in UAN on final grain yield in corn.

INTRODUCTION

Excelis Maxx and Duo Maxx are fertilizer additives that are more than just stabilizers. They are designed to protect urea-based fertilizers from various loss pathways. Excelis Maxx contains NBPT, DCD, LCN Complex, and a patented root biostimulant (called Rhizovit). Duo Maxx is made by combining Excelis Maxx with our patented binding agent called MPPA (macromolecular polyphenolic acid) and a different root biostimulant (called Duo).

These products were designed to control nitrogen loss pathways, such as volatility, denitrification and leaching. The addition of our patented biostimulants and other proprietary ingredients are added to help increase nutrient availability and stimulates root growth and nutrient uptake.

MATERIALS AND METHODS

Excelis Maxx was applied at 25 oz/ton of liquid UAN, Duo Maxx at 3 qt/ton and compared to competing stabilizer Agrotain Plus at 15 lbs/ton and to untreated UAN and an untreated UAN Control. The nitrogen rate tested was 120 lbs N/ ac which was knifed-in to the soil during planting.

KEY FINDINGS

+17.7 bu/ac
Duo Maxx vs.
Untreated Control

DETAILED RESULTS

Corn grown with **Duo Maxx treated UAN** showed the highest average yield of all treatments receiving 120 lbs N/ac at 214 bu/ac. This was 17.7 bu/ac higher than the untreated Control plots (Table 1). Excelis Maxx and Agrotain Plus performed equally and were better than the untreated UAN. It is apparent that Duo Maxx provided some additional benefit to the crop. It is suggested that this is due to the fact that the UAN was knifed-in, thus, reducing the risk of volatility loss. With the binder in Duo Maxx (MPPA), it is likely that more nitrate was maintained in the root zone because MPPA forms calcium-crossbridges with nitrates, thus, reducing leaching loss (the other stabilizers do not contain this technology). Since untreated UAN only yielded 196 bu/ac, NBPT and DCD formulas in both Excelis Maxx and Agrotain Plus still helped reduce yield loss associated with untreated UAN. These plots received a large amount of rain.

The results demonstrate the need for farmers and dealers to select the appropriate fertilizer additive based upon application method. If urea or UAN will be incorporated, a product like Duo Maxx may provide strategic advantage over products that contain only NBPT.

Pictures of representative replicates taken at mid-season, prior to tassel. Pictures were taken exactly 10 feet from center stake. Note the yellowing and firing of the No Nitrogen control. Note also the apparent biomass increase and darker green leaves with the use of stabilizers.



No Nitrogen

156.7 bu/ac

UAN

196.3 bu/ac

UAN + Agrotain Plus

207.5 bu/ac

UAN + Excelis Maxx

206.7 bu/ac

UAN + Duo Maxx

214 bu/ac