

OBJECTIVE

To assess the yield response of adding Duo Maxx fertilizer additive to different rates of 30% UAN at V7 side-dress application in grain corn.

Site Location:
Plymouth, NC

Researchers:
Tidewater Research Station
North Carolina State University

STUDY INFORMATION

Planting Date	7-May-2020
Harvest Date	28-Sept-2020
Variety	P1464 YHR
Population	34,000

KEY FINDINGS

+13.2 bu/ac

when Duo Maxx applied with 37.5 Gal/UAN

ROI: \$39.32/ac

+17.8 bu/ac

when Duo Maxx applied with 50 Gal/UAN

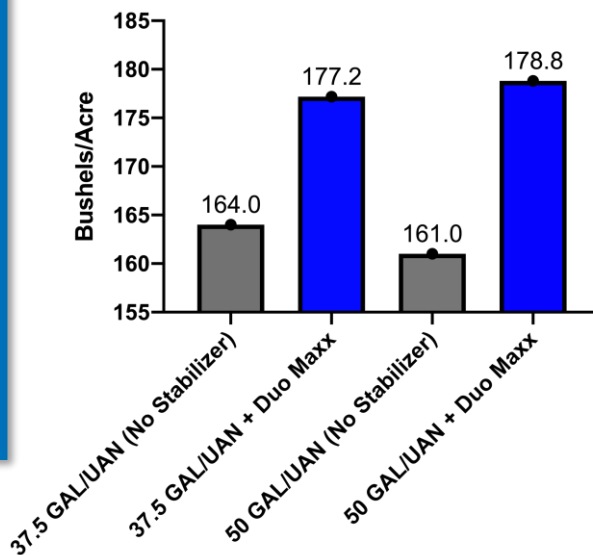
ROI: + \$53.13/ac

Graph: Duo Maxx added 13.2 and 17.8 more bu/ac than untreated UAN, respectively. ROI was calculated at \$3.75/bushel for corn with Duo Maxx retail cost of \$100/gallon.

TIMAC AGRO PRODUCT



Corn Yield Response from Addition of Duo Maxx in UAN Application at V7 (Plymouth, NC)



APPLICATION

Treatment	Application Rate
30% UAN @ 75% Rec. Rate	37.5 Gal/A
30% UAN @ 75% Rec. Rate treated w/ Duo Maxx	37.5 Gal/A + 2 Quarts/Fluid Ton
30% UAN @ 100% Rec. Rate	50 Gal/A
30% UAN @ 100% Rec. Rate treated w/ Duo Maxx	50 Gal/A + 2 Quarts/Fluid Ton

MATERIALS AND METHODS

This study was conducted in a research farm field with conventional tillage practices on a Cape Fear silt loam soil type. Soil test taken in the early spring pre-plant indicated adequate to high soil nutrient levels with sufficient amounts of P and K. Additional fertility application were followed according to recommendations generated from the North Carolina Department of Agriculture. The experimental design was a randomized complete block with 4 replications. Plots consisted of four 30-inch rows that were 40' long x 10' wide. Seeding rate was 34,000 seed an acre, and Pioneer '1464 YHR' was planted on May 7. All plots received 20 gal acre of 10-27-0 with Rotech (Zn & S micronutrient mixture) applied in the 2 x 2 bands on both sides of the row at planting. Acetachlor plus atrazine (2 qt/ac) were applied at planting and Halex GT(2 qt/ac) with atrazine (1 qt/ac) and Status (2.5 oz/ac) were applied at layby on June 17 using drop nozzles to control weeds. Excellent season long control on weeds was observed. Irrigation was used to prevent water stress when needed but plots received higher than average rain-fall. Plots were allowed to mature and harvested on September 28. Total weight of grain from the center 2 rows of each replicate was used to calculate moisture, test weight, and yield.

RESULTS AND CONCLUSIONS

UAN treated with Duo Maxx improved corn yield at both 37.5 GAL/A and 50 GAL/A rates over the same rates of UAN applied at V7 without any stabilizers or additives. This resulted in an ROI from treating the UAN with Duo Maxx of \$39.32/ac and \$53.13/ac, respectively.

RETURN ON INVESTMENT

Treatment	Yield (bu/ac)	Gross Revenue @ \$3.75/bu	Change from Control	Added Costs/ac	ROI
30% UAN, 37.5 GAL/A	164.0	\$615.00	-	\$0.00	-
30% UAN, 37.5 GAL/A + Duo Maxx (2 Qt/Ton)	177.2	\$664.50	\$49.50	\$10.18	\$39.32
30% UAN, 50 GAL/A	161.0	\$603.75	-	\$0.00	-
30% UAN, 50 GAL/A + Duo Maxx (2 Qt/Ton)	178.8	\$670.50	\$66.75	\$13.58	\$53.13

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