

## OBJECTIVE

To assess the total yield and crop quality response for sweet potato when dry fertilizer blends were treated with Duo Maxx, applied 11 and 26 days after planting.

**Site Location:**  
Newton Grove, NC

**Researcher:**  
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North Carolina State University

## TIMAC AGRO PRODUCT



## KEY FINDINGS

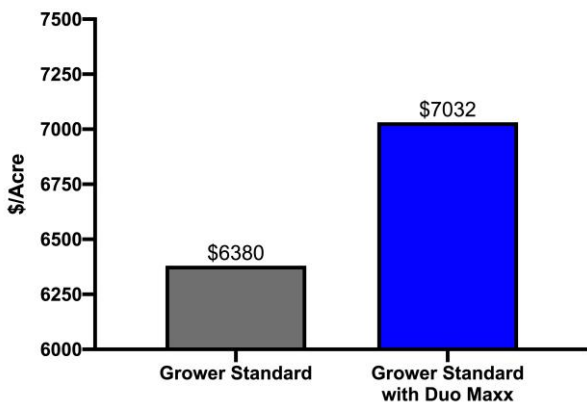
# +73 bx/ac

In Total Marketable category for Duo Maxx treatment over Grower Standard

# \$622.00/ac

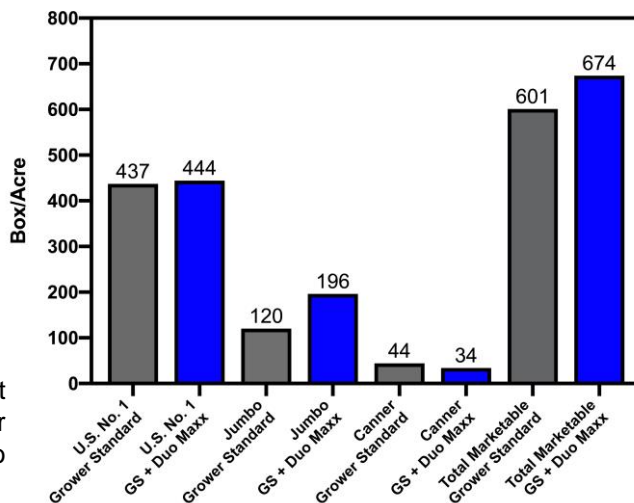
Returned from Duo Maxx fertilizer treatment over Grower Standard fertilizer

Gross Revenue from Boxes per Acre of Sweet Potato



**Graph:** The Gross Revenue above was calculated at \$12/box for U.S #1, \$8/box for Jumbo and \$4/box for Canner. Return on treatment was calculated at Duo Maxx retail cost of \$100/gallon.

Treatment Impact on Sweet Potato Yield & Quality



## APPLICATION

Treatment	Application Rate
Grower Standard	9-6-29 (300 lbs/A), 11 Days After Planting 11-0-29 (500 lbs/A), 26 Days After Planting
Grower Standard Treated with Duo Maxx	9-6-29 (300 lbs/A), Duo @ 14.4 oz/A, 11 Days After Planting 11-0-29 (500 lbs/A), Duo @ 24 oz/A, 26 Fays After Planting

## MATERIALS AND METHODS

This study was conducted on a commercial grower's farm in Newton Grove, NC in a field with a uniform, light sandy loam soil near Clinton, NC. The experimental design was a randomized complete block with 4 replications. Sweet potato variety "Covington" was transplanted on 5 June 2015. Plots were 4 rows, 50 ft long with a distance of 44 inches between row centers. Stand counts were taken nearly 2 weeks after planting in rows 2 and 3. Stands were very uniform across plots and most were at 100% of targeted stand. The first fertilizer application of 9-6-29 was applied 16 June, 11 days after planting, at 300 lb/ac. A second fertilizer application of 11-0-29 was applied 1 July, 26 days after planting at 500 lb/ac. Duo Maxx was applied at labeled rate of 3 quarts per ton of dry fertilizer, therefore using 14.4 oz/acre in first fertilizer application and 24 oz/acre in second fertilizer application. Harvest was 23 September 2015 (110 days after planting) as roots from 30 ft from one of the middle rows of the plot were collected, graded and weighed according the USDA standards. The grades included U.S. No. 1 (the most desirable and profitable grade), canner, jumbo, and cull (misshapen roots). The results were analyzed using SAS using Proc GLM and significance was determined using a LSD test to make pair wise comparisons of the treatments at the 0.05 level of significance. Yields were extrapolated from the pounds per plot that were measured to the number of 40 pound boxes produced per acre.

## RESULTS AND CONCLUSIONS

The application of Duo Maxx to the fertilizers that were applied two times resulted in greater jumbo yields (63% more) than if no Duo Maxx was applied. This translated into more marketable root yield (12% more marketable yield with Duo Maxx). The yields of U.S. No. 1, canner and culls roots were similar for these treatments. The Duo Maxx appeared to foster storage root bulking or sizing when added to the fertilizer.

## RETURN ON INVESTMENT

Grower Standard	US No. 1/Ac	Canner/Ac	Jumbo/Ac	Cull/Ac	Marketable/Ac	Cost of Treatment	Gross - Cost =
Box/Ac	437	44	120	10	601		
Gross Revenue	\$5,244	\$176	\$960	\$0	\$6,380	(-)	\$6,380

Grower Standard + Duo Maxx	US No. 1/Ac	Canner/Ac	Jumbo/Ac	Cull/Ac	Marketable/Ac	Cost of Treatment	Gross - Cost =	Change over GS
Box/Ac	444	34	196	8	674			
Gross Revenue	\$5,328	\$136	\$1,568	\$0	\$7,032	\$30	\$7,002	\$622

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