

OBJECTIVE

To assess the total yield and crop quality response for sweet potato when NutriRhize was used as 50% (100 lbs K₂O) of the potassium source.

Site Location:

Pontotoc, MS

Researcher:

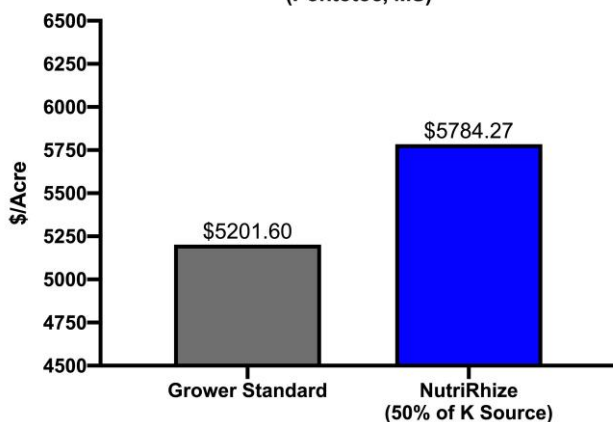
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TIMAC AGRO PRODUCT

NUTRI RHIZE

→ MBA

Gross Revenue Generated from Boxes of Various Grades of Sweet Potato (Pontotoc, MS)



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 NutriRhize retail cost of \$745/ton and MOP at \$400/ton.

KEY FINDINGS

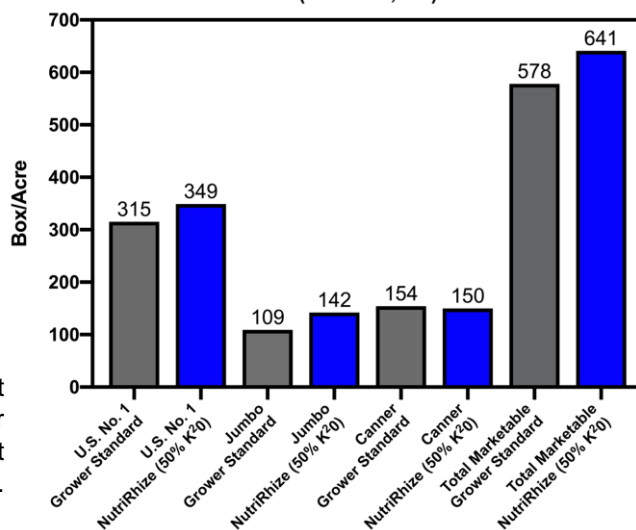
+63 bx/ac

In Total Marketable category for 50% NutriRhize/ 50% MOP over 100% MOP

\$582.67/ac

Returned from 50% NutriRhize/ 50% MOP over 100% MOP

Treatment Impact on Sweet Potato Yield & Quality (Pontotoc, MS)



APPLICATION

| Treatment | Application Rate |
|--|---|
| Grower Standard | 332 lb (200 lbs K ₂ O) |
| 50% K ₂ O from NutriRhize, 50% from MOP | 286 lbs (100 lbs K ₂ O) + 166 lbs (100 lbs K ₂ O) |

MATERIALS AND METHODS

A field trial was conducted at the Pontotoc Ridge-Flatwoods Branch Experiment Station, Pontotoc, MS to determine the influence of NutriRhize on sweet potato crop response. Treatments consisted of a non-treated check (100% of potassium from Muriate of Potash (MOP)) and treatment of NutriRhize at 286 lb/acre (50% potassium recommended) with MOP fulfilling the balance of the recommended rate. Based on soil test recommendations 200 lb/acre K₂O were applied to a cultivated field immediately prior to row formation. NutriRhize plots received 100 lb of the required K₂O from 0-0-60 and 100 lb from NutriRhize. The experiment design was a randomized complete block with four replications. The field was a Falkner silt loam with pH 6.7 and 1.1% organic matter. Plots consisted of 4 rows, each 40" apart on center and 30' long. 'Orleans' sweetpotato slips were transplanted on June 27, 2016 with an in-row spacing of 12". All herbicide applications were tractor-applied using 8002XR nozzles and calibrated to deliver 15 gpa and multiple applications provided excellent control. The center two rows of each plot were harvested on October 24 with a single row platform digger. Roots were hand-graded into jumbo, No. 1, canner, and cull. Marketable yield was calculated as the Data were subjected to ANOVA by ARM 9, and treatment means were separated by Fisher's LSD.

RESULTS AND CONCLUSIONS

The use of NutriRhize to fulfill 50% of recommended rate of potassium resulted in numerically higher yields of U.S. No. 1, jumbo roots and marketable 40-lbs boxes per acre. While cull numbers were higher in the NutriRhize treatment and cost of K fertilizer was higher there was still an economic return of \$582.67/acre over the grower standard of 100% of recommended rate from MOP.

RETURN ON INVESTMENT

| Grower Standard | U.S. No 1/Ac | Canner/Ac | Jumbo/Ac | Cull/Ac | Marketable/Ac | Cost of K Fertilizer | Gross - Cost= | |
|------------------------------|--------------|-----------|-------------|---------|---------------|-------------------------|------------------|-------------------|
| Box/Ac | 315 | 154 | 109 | 10 | 578 | | | |
| Gross Revenue | \$ 3,780.00 | \$ 616.00 | \$ 872.00 | \$ - | \$ 5,268.00 | \$ 66.40 | \$ | 5,201.60 |
| NutriRhize (50% K Source) | U.S. No 1/Ac | Canner/Ac | Jumbo/Ac | Cull/Ac | Marketable/Ac | Cost of K Fertilizer | Gross - Cost= | Change over GS |
| Box/Ac | 349 | 150 | 142 | 15 | 641 | | | |
| Gross Revenue | \$ 4,188.00 | \$ 600.00 | \$ 1,136.00 | \$ - | \$ 5,924.00 | \$ 139.74 | \$5,784.27 | \$ 582.67 |

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