Mosaic®

AgriFacts®

SUGARCANE

MicroEssentials® SZ® Sugarcane and Sugar Content Study

MicroEssentials®

Objective

- Evaluate sugarcane yield and sugar content response to MicroEssentials® SZ® (12-40-0-10S-1Zn) and DAP (18-46-0).

Overview

- Diammonium phosphate (DAP) is a common phosphorus (P) source used for sugarcane in Florida.
- Adequate availability of sulfur (S) and zinc (Zn) is critical to maximize yield of cane and sugar content.
- MicroEssentials SZ contains four nutrients fused into one nutritionally balanced granule, providing uniform nutrient distribution, increased nutrient uptake and season-long sulfur availability.

Trial Details

Locations and Crop Management:

CROP: Sugarcane (*Saccharum officinarum*)

YEARS: 2015–2017

LOCATIONS: 3 crops (1 plant and 2 ratoon) – Clewiston, FL

DATA SOURCE: Field studies conducted by the University of Florida.

EXPERIMENTAL DESIGN: Small-plot RCBD with 4 replications.

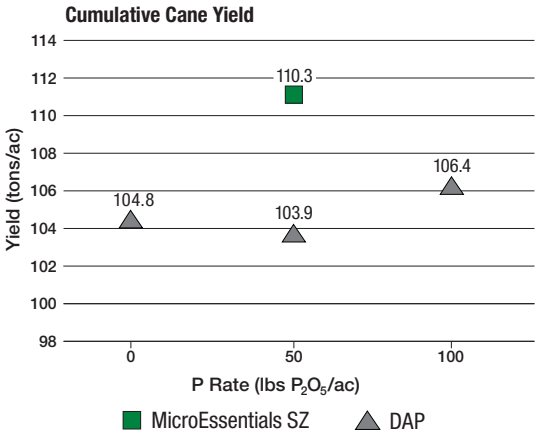
CROPPING CONDITIONS:

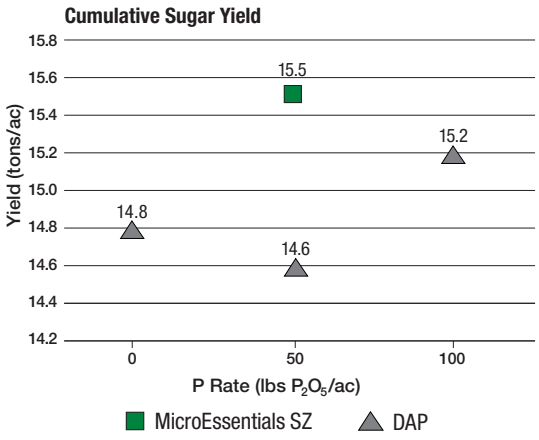
- **P Rates:** 0 (control – no P applied), 50 and 100 lbs P_2O_5/ac applied as DAP and 50 lbs P_2O_5/ac applied as MicroEssentials SZ
- **N and K Rate:** As recommended by soil test

Application Method and Timing:

- **Plant Cane:** All P was applied in furrow at planting.
- **Ratoon Cane:** All P was applied as side-dress after harvest.

Results





Summary

- Sugarcane showed good response to P, S and Zn.
- Cumulative cane yield with MicroEssentials SZ was 6.4 tons/ac (6.2%) higher than DAP at the 50 lbs P_2O_5/ac rate.
- Cumulative sugar yield with MicroEssentials SZ was 0.9 ton/ac (6.2%) higher than DAP at the 50 lbs P_2O_5/ac rate.
- Cane and sugar yields with MicroEssentials SZ at the 50 lbs P_2O_5/ac rate were higher than all P rates applied as DAP.
- Higher cane and sugar yields achieved by using MicroEssentials SZ demonstrate the features and benefits of uniform nutrient distribution, season-long S availability and increased nutrient uptake.

6.4 tons/ac

Cumulative cane yield increase with MicroEssentials SZ over DAP

0.9 ton/ac

Cumulative sugar yield increase with MicroEssentials SZ over DAP

Additional information on back. →

Appendix

Table 1. Cane yield and sugar content of Plant and Ratoon crops for one site.

		Plant Cane Crop 2015		Ratoon Crop–First 2016		Ratoon Crop–Second 2017	
Treatment	Rate (lbs P_2O_5/ac)	Cane Yield (tons/ac)	Sugar Yield (tons/ac)	Cane Yield (tons/ac)	Sugar Yield (tons/ac)	Cane Yield (tons/ac)	Sugar Yield (tons/ac)
Control	0	61.7	8.8	27.9	4.1	15.1	2.0
DAP	50	59.5	8.3	27.7	4.0	16.7	2.3
DAP	100	63.1	9.0	25.6	3.7	17.7	2.5
MicroEssentials SZ	50	61.6	8.7	30.9	4.6	17.8	2.2
Response to MicroEssentials SZ at 50 lbs P_2O_5/ac	tons/ac	2.1	0.4	3.2	0.6	1.1	-0.1
	%	3.4	5.4	11.6	13.4	6.7	-3.6

For more information, go to **MicroEssentials.com.**

SCanePRT–9804