Mosaic® AgriFacts®

SUGAR BEET

MicroEssentials® SZ® Sugar Beet Study

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Objective

- Evaluate sugar beet yield and RSA (Recoverable Sugar per Acre) response to MAP (11-52-0), MAP + APP (10-34-0), and MicroEssentials® SZ® (12-40-0-10S-1Zn) + APP.

Overview

- MAP and MOP are commonly used as primary phosphate and potash sources in sugar beet-growing regions of North America.
- In lower soil test phosphorus situations, a liquid starter of APP (Ammonium Poly Phosphate [10-34-0]) may be recommended in addition to fall MAP applications.
- University research will often discourage the use of secondary or micronutrient sources in sugar beet production.
- MicroEssentials SZ is a performance phosphate source that supplies multiple nutrients fused into one nutritionally balanced granule, providing uniform nutrient distribution, increased nutrient uptake, and season-long S availability.

Trial Details

Locations and Crop Management:

CROP: Sugar beet (*Beta vulgaris*)

YEARS: 2018-2019

LOCATIONS: 6 trials conducted in MN and MI

DATA SOURCE: Field studies conducted by third-party, independent researchers.

EXPERIMENTAL DESIGN: Small-plot RCBD with 4 replications.

CROPPING CONDITIONS:

Application Rates, Timing, and Method

P Rate: 40 lbs P_2O_5 /ac applied in the Fall as either MAP or MicroEssentials SZ.

K Rate: 40 lbs K_2O /ac (MN) and 180 lbs K_2O /ac (MI) applied in the Fall as MOP.

S Rate: 10 lbs S/ac applied from MicroEssentials SZ.

Zn Rate: 1 lbs Zn/ac applied from MicroEssentials SZ.

Liquid Starter: 3 gal/ac as 10-34-0 applied at planting.

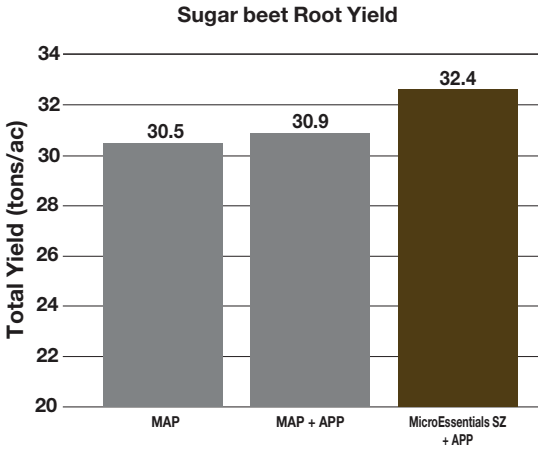
1.5 ton/ac

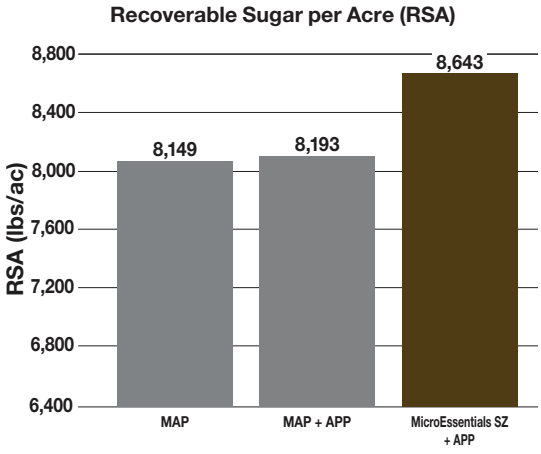
MicroEssentials SZ over MAP

450 lbs RSA/ac

MicroEssentials SZ over MAP

Results





Summary

- Along with fall applications of MAP, liquid APP starter (10-34-0) at planting increased total yield by 0.4 ton/ac and RSA by 44 lbs/ac.
- Replacing MAP with MicroEssentials SZ resulted in a yield increase of +1.5 ton/ac and +450 lbs/ac of RSA.
- The addition of S and Zn provided by MicroEssentials SZ boosted total tonnage and recoverable sugar, indicating the benefits of secondary macronutrients and micronutrients in sugar beet production.
- Access additional yield data, ROI calculators, and resources at MicroEssentials.com/Performance.

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Individual results may vary, and performance may vary from location to location and from year to year. This result may not be an indicator of results you may obtain, as local growing, soil and weather conditions may vary. Growers should evaluate data from multiple locations and years whenever possible.

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

SugbBSR_18-19