



Recoverable Sugar of Sugar Beets Yield Increased Using Huma® Program, Year 2

Research Report

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 Huma® Products: Jackpot®, Calcium, Super Potassium®

Objective

This field trial was conducted to observe effectiveness of additional preharvest applications of Huma® products on recoverable sugar of sugar beets and return on investment.

Materials & Methods

This trial on sugar beet (*Beta vulgaris vulg. altissima*) was conducted in Homedale, Idaho. The crop was seeded on April 18 and was harvested on October 18. A basic grower's standard (GS) fertilizer program was applied to all plots. It included 100 lb/a of N and 300 lb/a made up of MAP 11-52-0, potash 0-0-60, Tiger 90 sulfur, ammonium sulfate, Zn, Mn, and B. The additional Huma® preharvest treatments were foliarly applied in September, 21 days before harvest (DBH) for Treatment 2 and Treatment 3, and in October, 10 DBH for Treatment 3.

The plots were established in a randomized design with three 25 ft x 30-inch center rows with 4 replications. Three treatment programs were implemented as shown in Table 1.

Table 1. Huma® Treatment Programs In Addition to Grower Standard

Treatment	Product	Application Amount	Application Timing
1	Grower Standard	GS	GS
2	GS Jackpot® Huma® Calcium Super Potassium®	GS 2 qt/a 1 qt/a 1 qt/a	GS 21 Days Before Harvest
3	GS Jackpot® Huma® Calcium Super Potassium®	GS 2 qt/a 1 qt/a 1 qt/a	GS 21 Days and 10 Days Before Harvest

The sugar beets were harvested with a small digger, picked up and hand-weighed from 24 feet of row. Sugar content was taken by cutting out small chunks of several sugar beets, freezing them, then squeezing the juice from them. The Brix of juice was measured with a refractometer. The amount of recoverable sugar produced per acre was calculated by percentage of Brix from the juice. Yield was recorded in tons of beets per acre and percentage of sugar.

Results

Figure 1 demonstrates that the additional preharvest Huma® treatments yielded higher recoverable sugar (9.63 tons/a for Treatment 2, 9.84 tons/a for Treatment 3) than

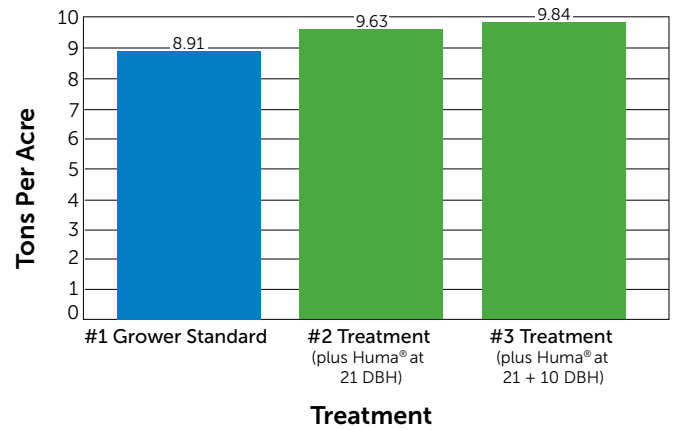


Figure 1. Recoverable Sugar Yield Results in Tons per Acre, by Treatment

the untreated grower's standard (8.91 tons/a). The one application of Treatment 2, which had a smaller yield increase than the 2 applications of Treatment 3, resulted in a larger return on investment (ROI) than Treatment 3 (Table 2).

Table 2. Yield, Percentage Yield Increase, Percentage Net Income Gain, and ROI Ratio of Huma® Treatments Over Control

Treatment	Sugar Beets Yield (tons/a)	Recoverable Sugar % Yield Increase	% Net Profit	ROI Ratio	% Brix
1	50.9	—	—	—	17.5
2	57.3	8%	6%	4:1	16.8
3	56.9	10%	7%	2:1	17.3

Conclusions

Even though the recoverable sugar yield differences among the three treatments were not statistically significant, the Huma® preharvest treatments yielded 8% to 10% higher recoverable sugar than the grower's standard program. The greater yields and net profits resulted in a return on investment (ROI) that paid for the products several times over (\$2–\$4 dollars returned for every \$1 spent).

It is noteworthy that this second-year result showed the effectiveness and profitability of Huma® products in sugar beet crops two years in a row (see the first-year results [here](#)).