

Effect of Foliar Application of Sulfur plus Manganese on Modified Relay Intercrop (MRI) Soybeans

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Objective

To evaluate grain yield response of MRI soybeans to liquid manganese chelate with sulfur (EEZY MAN) when applied at soybean growth stage R3/R4.

Background

Crop Year:	2013	Row width:	10 inches
Location:	OSU Unger Farm	Soybean Planting Date:	June 5, 2013
County/Town:	Crawford	Wheat Variety:	Pioneer P93Y24
Soil Type:	Blount/Pewamo	Herbicide (Post):	1 qt glyphosate (2 X)
Drainage:	Systematic	Treatment Dates:	July 26
Previous Crop:	Wheat	Soybean Seeding Rate:	225,000 seeds/acre
Tillage:	No – tillage	Fertilizer (lbs N-P-K):	95-58-78
Soil Test:	pH 6.2, P 34 ppm, K 152 ppm	Date of Harvest:	October 29, 2013
SCN Count:	(MRI area) 1160 eggs/100cc	Rain fall:	25.57 inches (5/16-10/2)

Methods

Soybeans were interseeded into standing wheat with 10 inch row spacing on June 5, 2103 with a Great Plains 2010P precision drill mounted on a 3 point hitch with lift assist wheels. Pioneer P93Y24 were planted at a rate of 225,000 seeds per acre. Wheat was harvested on July12, 2013. Wheat averaged 70 bushel per acre in the field. An application of 1 quart of glyphosate was applied on July 22.

This study used a randomized complete block design with two treatments replicated 4 times to compare EEZY MAN @2 qts/acre treated plots and an untreated control (no EEZY MAN). EEZY MAN (manufactured by The Andersons) contains 2% combined sulfur and 5% chelated manganese by weight. Label suggested rates were 1-2 qts/acre in 10 -20 gallons of water/acre (2 qts/acre was the treatments rate). Plots were treated on July 26 with a 10 foot CO2 plot sprayer. Each plot was 10 feet wide and averaged 44 feet long. Plots were harvested on October 29, 2013 using a Kincaid 8-XP small plot combine harvesting the center five feet of each plot.

Treatments

- 1) EEZY MAN at 2 qts/acre applied in 15 gallons of water at 40 psi
- 2) Control (no EEZY MAN)

Results

Table 1. MRI Soybean Yield adjusted to 13.5% moisture

<u>Treatment</u>	<u>Mean yield (bu/acre)</u>
EEZY MAN @ 2qts/ac	48.1
Control	47.4

F=.35, NS; CV =3.49;P>F=.57

Summary

There was not any significant treatment effect observed. EEZY MAN cost \$12.32 per acre at the rate used and another \$10.00 for application and adjuvants for a total cost of \$22.32 per acre. Soybeans were \$12.87 per bushel at harvest. Thus, it would take 1.73 bushels of soybeans to cover the cost of product and application.

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