

# Technical Data Report

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## Effects of Nutriplant™ SL and Nutriplant™ AG on Dryland Soybeans

### Objective

The objective of this study was to determine the effect of Nutriplant SL and Nutriplant AG on dryland soybeans.

### Materials and Methods

A field trial was conducted on soybeans (*Glycine Max* L. cv. Syngenta 28k1) at Irrigation Research Foundation located in Yuma, Colorado, USA in 2013. Humalfa compost was applied at 3 Tons/acre (6.7 metric tons/ha) on January 3 and nitrogen and phosphorus were applied using strip-till implement at 54.1 kg/ha (48.3 lb N/acre) and 35.6 kg/ha (31.8 lb P<sub>2</sub>O<sub>5</sub>/acre) at depths of 10.2 cm (4 inches) and 25.4 cm (10 inches) on April 8. On May 28, soybeans were planted at 222,300 seeds/ha (90,000 seeds/acre) and starter 21.8-11-1.8-1.2S-0.1Zn fertilizer was applied at 84 l/ha (9 gal/acre) to all treatments including control in 2x2 placement (2 inches to the side and 2 inches below the seed). The treatments included 1) Control, Nutriplant SL at 0.29 l/ha (4 fl oz/acre) with 37.3 l/ha (4 gal/acre) of water in-furrow on May 28, and 3) Nutriplant SL at 0.29 l/ha (4 fl oz/acre) with 37.3 l/ha (4 gal/acre) of water applied in-furrow on May 28 followed by two applications of Nutriplant AG at 1.2 l/ha (16 oz/acre) at V6 stage on June 9 and at pod set (R3-R4) on July 18. Weeds were controlled with applications of Roundup WeatherMax at 2.3 l/ha (32 fl oz/acre), nonionic surfactant (NIS) at 0.94 l/ha (12.8 fl oz/acre) of water, and ammonium-sulfate (AMS) at 2 kg/100 l (17 lb/100 gal) of water on June 9 and 30, and August 5. Other cultural practices followed local practices and were the same for treated and control plots. Soybeans were harvested on October 8. Grain yield was measured and adjusted to 13% moisture.

### Results

All treatment applications improved soybean yields when compared to the untreated control (Table 1). Application of Nutriplant SL at 0.29 l/ha (4 fl oz/acre) with 37.3 l/ha (4 gal/acre) of water applied in-furrow increased soybean yields by 397 kg/ha (5.9 Bu/acre) over control. Compared to the untreated control, Nutriplant SL at 0.29 l/ha (4 fl oz/acre) with 37.3 l/ha (4 gal/acre) of water applied in-furrow followed by two applications of Nutriplant AG at 1.2 l/ha (16 oz/acre) at V6 stage and at pod set (R3-R4) improved soybean yields by 514 kg/ha (7.7 Bu/acre).

*Table 1. Influence of Nutriplant SL and Nutriplant AG on soybean yields at Irrigation Research Foundation, Yuma, Colorado, USA in 2013.*

Treatment	Grain Yield		Difference		Difference (%)
	(kg/ha)	(bu/acre)	(kg/ha)	(bu/acre)	
Control with starter fertilizer	1,099	16.35	-	-	-
Nutriplant SL applied in-furrow	1,496	22.26	397	5.9	36.1
Nutriplant SL applied in-furrow followed by two applications of Nutriplant AG at V6 stage and at pod set (R3-R4)	1,613	24.00	514	7.7	46.8

### **Conclusions**

Compared to the untreated control, Nutriplant SL applied at 0.29 l/ha (4 fl oz/acre) with 37.3 l/ha (4 gal/acre) of water in-furrow improved soybean yields by 36.1%. Nutriplant SL at 0.29 l/ha (4 fl oz/acre) with 37.3 l/ha (4 gal/acre) of water applied in-furrow, followed by two applications of Nutriplant AG at 1.2 l/ha (16 oz/acre) at V6 stage and at pod set (R3-R4), increased soybean yields by 46.8%.