

# Technical Data Report

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## Evaluation of NUTRIPLANT™ SL and AG on Production of Irrigated Corn without Starter Fertilizer

### Objective

The objective of the study was to determine the effects of Nutriplant SL and Nutriplant AG on production of irrigated corn without starter fertilizer.

### Materials and Methods

The field trial was conducted on irrigated corn (*Zea mays* L., var. Golden Harvest GO3A50-5122) at the independently owned and operated agricultural research facility, Irrigation Research Foundation (IRF) at Yuma, Colorado, USA under the supervision of Colorado State University in 2016. Two uniform plots were selected for the trial. Two treatments were tested: 1) Untreated control without starter fertilizer and 2) Nutriplant SL at 0.6 l/ha (8 fl oz/acre) with 37 l/ha (4 gal/acre) of water applied in-furrow at planting without starter fertilizer followed up by foliar application of Nutriplant AG at 1.2 l/ha (16 fl oz/acre) at 6-8 leaf stage on 30 May. On 17 March, 16.4-8.2-1.3-4.7S fertilizer was applied at 94 l/ha (10 gal/acre) 10 cm (4 inch) deep and 122 l/ha (13 gal/acre) 25 cm (10 inch) deep using strip-till implement. Corn was planted at 83,980 seeds/ha (34,000 seeds/acre) on 27 April. The 28-0-0-5 fertilizer was applied at 37.3 l/ha (4 gal/acre) on 10 and 21 June, 7, 11, 13, 18, 22 and 26 July through Reinke sprinkler irrigation system. Weed control included application of Acuron at 5.8 l/ha (2.5 qt/acre) with Roundup WeatherMax at 2.3 l/ha (32 fl oz/acre) and Ammonium-sulfate (AMS) 0.25 l/100 l (1 qt/100 gal) of water and nonionic surfactant (NIS) at 0.25 l/100 l (1qt/100 gal) of water on 4 May. The crop received 30.3 cm (11.92 inches) of rainfall and 23.4 cm (9.23 inches) of water from irrigation during the season. Other cultural practices followed local practices and were the same for treated and control plots. Corn was harvested on 17 October and yield was determined and adjusted to 15.5% moisture.

### Results

Application of seed and foliar treatments improved corn yields (Table 1). Nutriplant SL applied at 0.6 l/ha (8 fl oz/acre) in-furrow at planting without starter fertilizer and followed by Nutriplant AG at 1.2 l/ha (16 fl oz/acre) at 6-8 leaf stage increased yields by 313 kg/ha (5.0 bu/acre) compared to control without starter fertilizer alone.

Table 1. Effects of Nutriplant SL and Nutriplant AG on irrigated corn yields without starter fertilizer. Irrigation Research Foundation, Yuma, Colorado, USA.

Treatment	Corn Yield		Difference		Difference (%)
	(kg/ha)	(bu*/acre)	(kg/ha)	(bu/acre)	
Control without starter fertilizer	12,400	197.7	-	-	-
Nutriplant SL at 0.6 l/ha (8 fl oz/acre) in-furrow at planting without starter fertilizer and Nutriplant AG at 1.2 l/ha (16 fl oz/acre) at 6-8 leaf stage	12,713	202.7	313	5.0	2.5

\*One bushel (bu) of corn equals 56 lb at 15.5% grain moisture

## **Conclusions**

Compared to the control without starter fertilizer, application of Nutriplant SL applied at 0.6 l/ha (8 fl oz/acre) in-furrow without starter fertilizer and followed up by Nutriplant AG application at 1.2 l/ha (16 fl oz/acre) at 6-8 leaf stage improved yield of irrigated corn by 2.5%.