

Technical Data Report

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Evaluation of NUTRIPLANT™ AG on Production of Irrigated Corn with Starter Fertilizer

Objective

The objective of the study was to determine the effects of Nutriplant AG on production of irrigated corn with starter fertilizer.

Materials and Methods

The field trial was conducted on irrigated corn (*Zea mays* L., var. Golden Harvest G07B39-3111A) 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 2015. Two uniform plots were selected for the trial. Two treatments were tested: 1) Untreated control with starter fertilizer and 2) Nutriplant AG at 1.2 l/ha (16 fl oz/acre) at 6-8 leaf stage on 2 July. On 30 March, 17-8-1-4.8S 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 13 May. At planting, starter fertilizer 15.7-8.9-2.6-2.6S-0.1Zn was applied 5 cm to the side and 5 cm deep (2x2 inches) at 168 l/ha (18 gal/acre) to all plots. The 28-0-0-5 fertilizer was applied at 56.1 l/ha (6 gal/acre) on 11, 16 and 24 June, 93.5 l/ha (10 gal/acre) on 3 and 12 July through sprinkler irrigation system. Weed control included application of Lumax EZ at 5.6 l/ha (2.4 qt/acre) with Touchdown Total at 2.3 l/ha (32 fl oz/acre) and Ammonium-sulfate (AMS) at 0.25 l/100 l (1 qt/100 gal) of water and nonionic surfactant (NIS) at 0.25 l/100 l (1 qt/100 gal) of water on 15 May. The crop received 37.3 cm (14.7 inches) of rainfall and 25.3 cm (9.96 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 31 October and yield was determined and adjusted to 15.5% moisture.

Results

Application of foliar treatment improved corn yields (Table 1). Nutriplant AG applied at 1.2 l/ha (16 fl oz/acre) at 6-8 leaf stage increased yields by 860 kg/ha (13.7 bu/acre) compared to control with starter fertilizer.

Table 1. Effects of Nutriplant AG on irrigated corn yields. Irrigation Research Foundation, Yuma, Colorado, USA.

Treatment	Corn Yield		Difference		Difference (%)
	(kg/ha)	(bu*/acre)	(kg/ha)	(bu/acre)	
Control with starter fertilizer	12,989	207.1	-	-	-
Nutriplant AG at 1.2 l/ha (16 fl oz/acre) at 6-8 leaf stage	13,849	220.8	860	13.7	6.6

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

Conclusions

Compared to the control with starter fertilizer, application of Nutriplant AG application at 1.2 l/ha (16 fl oz/acre) at 6-8 leaf stage improved yield of irrigated corn by 6.6%.