

Technical Data Report

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Evaluation of NUTRIPLANT™ SL and AG on Production of Dryland Corn

Objective

The objective of the study was to determine the effects of Nutriplant SL and Nutriplant AG on production of dryland corn.

Materials and Methods

The field trial was conducted on dryland corn (*Zea mays* L., var. Golden Harvest G01P52-3011A) 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 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 followed up by foliar applications of Nutriplant AG at 1.2 l/ha (16 fl oz/acre) at 6-8 leaf stage on 2 July. Corn was planted at 37,050 seeds/ha (15,000 seeds/acre) on 23 April. Humalfa compost was spread at 6.7 t/ha (3 tons/acre) on 12 March. On 24 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 on 24 March. Weed control included application of Lumax EZ at 6.3 l/ha (2.7 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 24 April and Status at 0.42 kg/ha (6 oz/acre) with Roundup WeatherMax at 2.3 l/ha (32 fl oz/acre) and AMS at 0.25 l/100 l (1 qt/100 gal) and NIS at 0.25 l/100 l (1 qt/100 gal) of water on 22 June. The crop received 39.0 cm (15.37 inches) of rainfall during the season. Other cultural practices followed local practices and were the same for treated and control plots. Corn was harvested on 22 September 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 520 kg/ha (8.3 bu/acre) compared to control without starter fertilizer alone.

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

Treatment	Corn Yield		Difference		Difference (%)
	(kg/ha)	(bu*/acre)	(kg/ha)	(bu/acre)	
Control without starter fertilizer	3387	54.0	-	-	-
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	3907	62.3	520	8.3	15.4

*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 and followed up by Nutriplant AG application at 1.2 l/ha (16 fl oz/acre) at 6-8 leaf stage improved yields by 15.4% under dryland conditions.