Technical Data Report

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Evaluation of NUTRIPLANT™ SL Application on Production of Dryland Corn

Objective

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

Materials and Methods

The field trial was conducted on dryland corn (*Zea mays* L., var DeKalb DKC 51-20) at the independently owned and operated agricultural research facility, Irrigation Research Foundation (IRF) at Yuma, Colorado, USA under the supervision of Colorado State University. Three uniform plots were selected for the trial. Three treatments were tested: 1) Untreated control, 2) Nutriplant SL applied to seeds at prior to planting and 3) Nutriplant SL applied in-furrow at planting. Corn was planted at 34,580 seeds/ha (14,000 seeds/acre) on 28 May 2014. Nutriplant SL was applied either at 250 ml/100 kg (4 oz/100 lb) of seeds or in-furrow at 0.6 l/ha (8 fl oz/acre) with 37 l/ha (4 gal/acre) of water. Humalfa compost was spread at 6.7 t/ha (3 tons/acre) on 24 March. On 27 March, fertilizer (23-0-3-5.7S) 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 a strip-till implement. Weed control included application of Lumax EZ at 7.6 l/ha (3.25 qt/acre) with Roundup RT3 at 1.6 l/ha (22 fl oz/acre) and Class Act NG at 1.4 l/ha (0.6 qt/acre) and Interlock at 0.15 l/ha (2 fl oz/acre) on 7 May 2014. On 11 June, corn was sprayed with Roundup Weather Max at 2.3 l/ha (32 fl oz/acre) with AMS at 1 kg/100 l (8.5 lb/100 gal) of water and NIS at 0.25 l/100 l (1 qt/100 gal) of water. The crop received 40.6 cm (16 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 25 October 2014 and yield was determined and adjusted to 15.5% moisture.

Results

Application of Nutriplant SL to seeds and in-furrow increased corn production (Table 1). Nutriplant SL applied to seeds at 250 ml/100 kg (4 oz/100 lb) without starter improved corn yields by 458 kg/ha (7.3 bu/acre) and Nutriplant SL applied at 0.6 l/ha (8 fl oz/acre) in-furrow with 37 l/ha (4 gal/acre) of water without starter increased yields by 740 kg/ha (11.8 bu/acre) compared to control without starter fertilizer.

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

Treatment	Corn Yield		Difference		Difference (%)
	(kg/ha)	(bu*/acre)	(kg/ha)	(bu/acre)	
Control without starter	7,018	111.9	-	-	-
Nutriplant SL at 250 ml/100 kg (4 oz/100 lb) without starter	7,476	119.2	458	7.3	6.5
Nutriplant SL at 0.6 l/ha (8 fl oz/acre) in-furrow with 37 l/ha (4 gal/acre) of water without starter	7,758	123.7	740	11.8	10.5

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

Conclusions

Compared to the control without starter, application of Nutriplant SL to seeds at 250 ml/100 kg (4 oz/100 lb) without starter improved corn yields by 6.5% and Nutriplant SL applied at 0.6 l/ha (8 fl oz/acre) in-furrow without starter increased yields by 10.5%.