

# Technical Data Report

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## Effects of Nutriplant™ SD on Snap Bean Production

### Objective

The objective of the study was to evaluate the effect of Nutriplant SD on production of snap beans.

### Materials and Methods

Field trials were conducted on snap bean (*Phaseolus vulgaris* L. cv. Caprice) at the commercial farm located in Lexington, South Carolina, USA in 2014. Snap beans were planted at 645,560 seed/ha (261,360 seeds/acre) in 91.4 cm (36 inch) row spacing using Monosem Precision Vacuum Planter on April 22. The experiment consisted of two treatments: 1) untreated control, and 2) seeds treated with Nutriplant SD at 250 g/100 kg (4 oz/100 lb) seeds. The test plot was 32.9 m (108 ft) long and 6 rows wide. Fertilizer program included 16-16-0 (N-P<sub>2</sub>O<sub>5</sub>-K<sub>2</sub>O) at 18.7 l/ha (2 gal/acre) at planting, 25-5-21 at 112 kg/ha (100 lb/acre) two weeks later and again 18-5-24 at 560 kg/ha (500 lb/acre) two weeks later. Snap beans were irrigated 2 times per week at 1.3 cm (0.5 inch) during most the season, except the bloom stage when it was irrigated 3 times per week at the same rate. Other cultural practices, including pest management, followed local practices and were the same for treated and untreated plots. The spring was cool and rainfall was average during the vegetation season. Snap beans were harvested two times by hand on June 19 and July 1. The yield was calculated based on the number of boxes and average weight of 12.7 kg (28 lbs) per box.

### Results

Nutriplant SD application to seeds generally increased yields of snap beans (Table 1). Yields increased by 1,380 kg/ha (1,232 lb/acre), from 11,258 kg/ha (10,052 lb/acre) for the control to 12,638 kg/ha for the Nutriplant SD treatment during the first harvest. For the second harvest, yield improved by 1,254 kg/ha (1,120 lb/acre), from 12,544 kg/ha (11,200 lb/acre) for the control to 13,798 kg/ha (12,320 lb/acre) for the treated seeds. On average from the two harvest dates, yield of snap beans increased by 1,317 kg/ha (1,176 lb/acre).

Table 1. Effect of Nutriplant SD on snap bean yields. Lexington, South Carolina, USA.

Harvest	Snap Yields						
	Control		Nutriplant SD		Difference		
	(kg/ha)	(lb/acre)	(kg/ha)	(lb/acre)	(kg/ha)	(lb/acre)	(%)
1	11,258	10,052	12,638	11,284	1,380	1,232	12.3
2	12,544	11,200	13,798	12,320	1,254	1,120	10.0
Mean	11,901	10,626	13,218	11,802	1,317	1,176	11.1

### Conclusions

Compared to the untreated control, Nutriplant SD applied to seeds at planting increased yields of snap beans by 12.3% for the first harvest and 10.0% for the second harvest, with the average increase of 11.1%