

SOIL/WATER RESEARCH

South Dakota State University

2008 Progress Report

Agricultural Experiment Station
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Starter fertilizer, Avail, Jumpstart and QuickRoots influence on corn growth (V6) and grain yield at Brookings SD in 2008. (42408)

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Introduction

There are many non-traditional plant growth and nutrient products available for farmers to use. Each has a claim for improved yields. The efficacy of these products needs to be tested in order for grain producers to be able to make good agronomic decisions. Therefore, a research project was conducted to evaluate the influence of three popular products on corn.

Materials and Methods

Item:	Description:
Location	Agronomy farm, Brookings SD
Hybrid	DKC 46-60 VT3
Planting date / rate	May 5, 30,136
Tillage method	No-till
Row spacing	30 inches
N application	Broadcast urea after planting (130 lbs N/a)
Treatments	Starter Fertilizer 10-34-0 (5 and 10 gpa) applied with seed. Avail (1.5% vol/vol) applied with 5 gpa 10-34-0 Jumpstart (2 oz/10 bags of seed) on seed with 5 gpa 10-34-0. TJ's Quick Roots (400 g/25 bags of seed) on seed with 5 gpa 10-34-0.
Soil samples	0-6 and 6-24 inch
Harvest date	Oct. 10
Dependant variables	V6 plant dry weight P and grain yield
Statistics	RCBD, 4 replications

Results and Discussion

Soil test results showed 8 ppm Olsen P test (Medium). A medium soil test will show a yield response to added P 40-60% of the time. Soil nitrate-N levels indicated that 130 lbs N/a for 150 bu/a yield goal. Other soil nutrients were adequate. Early growth response at V6 growth stage was significant, however only the starter application and no alternate product significantly increased plant weight (Table 1). P uptake at

the V6 growth stage was not significant, but the plots with starter were noticeably greater than the check. Grain yield and moisture were not significantly influenced by starter fertilizer or alternative product despite the significant early growth differences.

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