



On-Farm Demonstration Trial: Fertility and Soils Starter Fertilizer on Corn Trials

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Objective

Determine the effects of starter fertilizer on yields in corn to determine management strategies.

Introduction

Nitrogen use efficiency is a major factor causing yield variation in corn. Many farmers overuse nitrogen and do not understand the relationship between nitrogen applied and potential yields. The Nitrogen use relationship within a corn plant is not linear in that if you continue to add nitrogen you will not continue to achieve larger yields. There is a point of diminishing returns that makes economic sense for farmers to determine. Starter fertilizer has been shown to occasionally increase corn yields. The purpose of these trials was to investigate what effect starter fertilizer application will have on corn yields.

Materials and Methods

Crop Year–2021	
Trial	210807
Trial County	Floyd
Soil Type	
Previous Crop	Soybean
Tillage	Conventional
Current Crop	Corn
Hybrid–Variety Number	DKC 55-53GENSS
Hybrid–Variety Company	Dekalb
Row Spacing	30 in.
Seeding Rate	35,000/ac.
Planting Date	May 2
Harvest Date	October 18
Experimental Type	
Replications	6
Starter Fertilizer	168 lbs./ac. = 43.7 lbs. P ² O ₅ /ac.+50.4 lbs. K ² O/ac.
	1/2 map (11-52-0) and 1/2 potash (0-0-60)
Starter Placement	2 x 2 placement

Results

Trial Number	Treatment	Yield (bu./ac.) ^a	P-value ^b
210807	Starter Fertilizer	225.1 a	0.70
	Untreated Control	226.9 a	

^aValues denoted with the same letter within a trial are not statistically different at the significance level of 0.10.

^bP-value = the calculated probability that the difference in yields can be attributed to the treatments and no other factors. For example, if a trial has a P-value of 0.10, then we are 90% confident the yield differences are in response to treatments. This is consistent for demonstration trials.

Key Takeaways

- There were no significant yield or moisture effects from the treatments in the experiment.
- This product did not benefit or harm plant health and yield production.
- NOTE: The results presented are from replicated demonstration trials. Statistics are used to detect differences at a location and should not be interpreted beyond the single location.

