CORN FERTILIZER STUDIES - 1980

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Fertile soils are not always productive soils but productive soils are always fertile. Soil fertility is probably the easiest changeable yield limiting factor under the control of the grower. Even though fertilizer costs more this season, it does not make good sense to heavily restrict usage, since fertilizer is but one of the variable costs associated with growing corn.

Two experiments were established in 1980 to examine the response of corn to fertilizer, nitrogen, phosphorus and potassium. These are:

1. Central Composite Design comparing -

Nitrogen at planting	20,	60,	120,	180,	220	lbs/ac
Nitrogen sidedressed	0,	20,	50,	80,	100	
Potassium (K_2O)	50,	90,	150,	210,	250	
All treatments received	150 lbs/acre P_2O_5					

2. Factorial Design with two replicates comparing -

Nitrogen at planting	100,	180	lbs/acre
Nitrogen sidedressed	0,	60	
Phosphorus (P_2O_5)	50,	100	
Potassium (K_2O)	100,	200	

These experiments were sown May 22 with Cornell 281 corn into a Hadley fine sandy loam soil. Plots are five rows, 36 inches apart sown at a population of 28,500 seeds per acre. The herbicides used were atrazine and alachor (Lasso) pre-emergence at 1.25 lb and 2 lb per acre, respectively. The source of fertilizer nutrients was: nitrogen-ammonium nitrate; phosphorus-triple superphosphate; potassium-murate of potash. Sidedressed nitrogen was applied July 3 six weeks after planting.