



Corn Fertilizer Economic Challenge

Miles Farms, Arkansas: 2024

Experiment Info	
Planted:	
Harvested:	
Yield Goal:	
Variety:	
Pop.:	
Row Width:	
Prev. Crop:	
Plot Size:	
Reps:	

Soil Test (ppm)	
pH:	5.98
CEC:	7.04
%OM:	2.56
Bray P1:	64
Bicarb P:	--
K:	223
S:	14
%K:	8.1
%Mg:	68.4
%Ca:	6.5
%H:	16.9
Zn:	4.0
Mn:	342
B:	0.6

Objective:

Crop and fertilizer prices vary from year to year, however in order to remain profitable on the farm you have to made adjustments to fit the current year's budget. In this trial we took 4 grower agronomist and had them develop a fertility program based on the local Arkansas soil test. Each person build the fertility program and spend dollars as they found necessary with a goal to earn the highest return on fertilizer investment.

Fertilizer programs ranged from \$141.14 to \$194.96 per acre. At harvest crop value was determined by yield and current Chicago cash price that day. To determine return on fertilizer investment (ROI) cost of fertilizer program, crop value was divided by cost of fertility program. Results of yield and economics appear on the table below.

Treatment Number	Yield Summary			Economic Summary				
	Yield: (bu/A)	+/- Grower Standard	Treatment (\$/A)	Crop Value (\$/A)	Crop - Trt \$	+/- Grower Standard	Fertilizer \$ ROI	Crop Value \$/unit
Matt (GS)	240.5		\$194.96	\$877.83	\$682.87		4.5	\$3.65
Kelly	241.4	0.9	\$145.67	\$881.20	\$735.53	\$52.67	6.0	
Galynn	243.6	3.1	\$156.60	\$889.14	\$732.54	\$49.68	5.7	
Stephanie	241.8	1.3	\$141.14	\$882.57	\$741.43	\$58.57	6.3	

Conclusions:

- All four fertilizer programs yielded similar to one another.
- Highest yield was achieved with a fertilizer program costing \$156.60/A but did not provide the highest ROI.
- Highest ROI was achieved at 6.3, yielded 241.8 bu/A and was the lowest cost program at \$141.14/A.