



Ben McClure Kramer Seed Farms. 2008 Nitrogen Test Plots

2008, 1st year.

Continuous Corn Strip Till

CORN

Exactrix Test Data supplied by producer Ben McClure, Hugoton, KS. and Garrett Havel Agronomist.

Exactrix-Gram, \$1,000 paid to all Exactrix producers generating randomized and replicated plots to determine nitrogen use efficiency.

November 2008.

TAPPS formulation following the Ortho Ratio.

Maximum Economic Yield: 150.0 lbs. N/A.

Point of diminishing return: 126.5 lbs. N/A.

Strip Tillage, 30 inch, Corn on Corn.

1. Exactrix low CV, NH₃ application.

2. Exactrix 2KP, Forming TAPPS.

Yield Goal established at 210 bushels per acre.

Supplemental Irrigation System.

Hail Damage in June reduced overall yield potential in the general area.

Large field size plots randomized and replicated 4 times or 28 total plots.

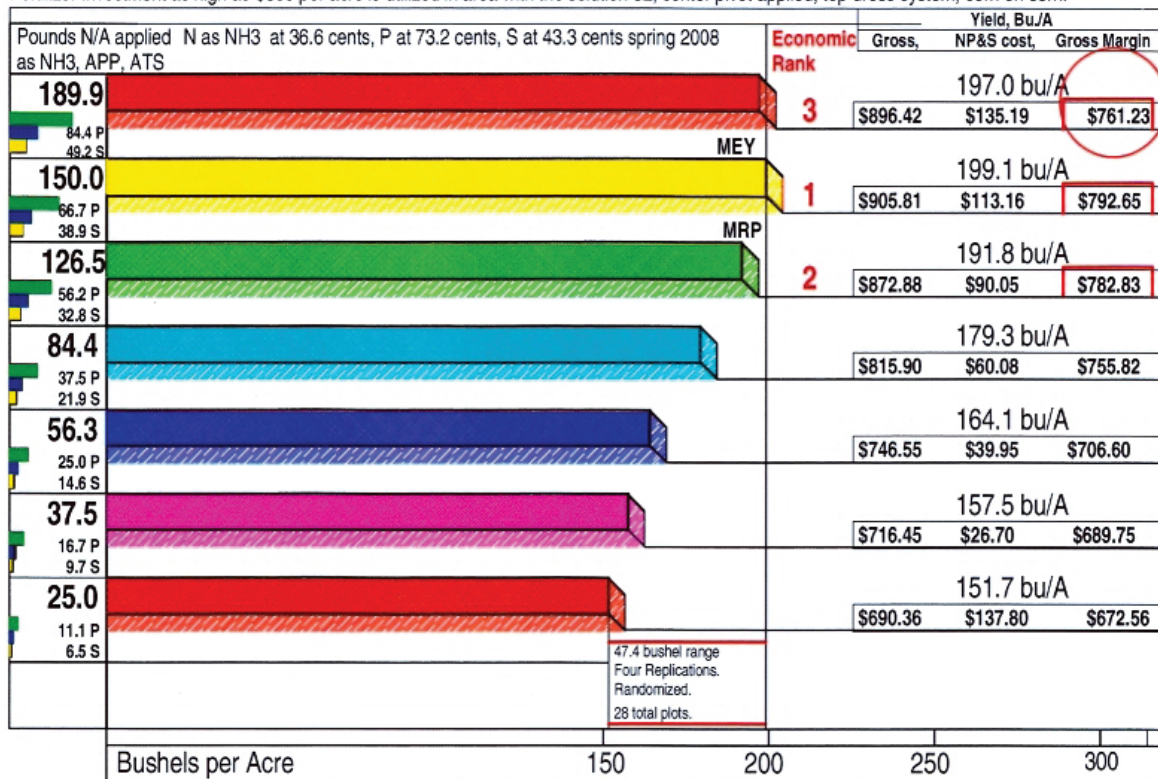
Best Returns came with 12% of the gross income invested in nutrients.

The Best Return....Exactrix reports that 12% of the gross is the typical best investment in fertilizer with a soil pH of 7 or greater.

TAPPS Formulator

Ortho Ratio 27-12-0-7S

Fertilizer Investment as high as \$300 per acre is utilized in area with the solution 32, center pivot applied, top dress system, corn on corn.



Kramer Seed Farms Nitrogen Test Plot

Stripped 3/5/2008
Planted 4/25/2008
Harvested 10/24/2008

Ortho Ratio	N	P	K	S
	27	12	0	7

Application Rates						Estimated Cost	2008 Results					Dry	Yield	\$4.55		
Pass	Plot	N	P	S	(\$)	Pounds	Bushel/Acre	Test Weight	Moisture	Rep Avg	Bushels	Rank	Gross \$ / Acre @ 5.00	Net \$ / Acre	Estimated Cost (\$)	
3N	1A	150.0	66.7	38.9	\$113.16	11380	203.2	57.8	15.5		203.2	1	924.63	811.46	-\$113.16	
4N	2A	56.3	25.0	14.6	\$40.05	9640	172.1	57.8	16.1		170.8	5	777.14	737.10	-\$40.05	
5N	3A	84.4	37.5	21.9	\$60.09	10180	181.8	56.5	15.8		181.1	4	823.90	763.81	-\$60.09	
6N	4A	189.9	84.4	49.2	\$135.19	11120	198.6	57.5	16.3	181.2	196.5	3	894.10	758.91	-\$135.19	
7N	5A	126.5	56.2	32.8	\$90.06	11040	197.1	58.6	15.2		197.9	2	900.50	810.44	-\$90.06	
8N	6A	37.5	16.7	9.7	\$26.70	9060	161.8	55.1	16.1		160.5	6	730.38	703.69	-\$26.70	
9N	7A	25.0	11.1	6.5	\$17.80	8600	153.6	56.6	16.3		152.0	7	691.48	673.68	-\$17.80	
10N	1B	150.0	66.7	38.9	\$113.16	11220	200.4	57.6	15.7		199.8	1	909.25	796.09		
11N	2B	56.3	25.0	14.6	\$40.05	9180	163.9	57	15.9		163.1	5	742.00	701.95		
12N	3B	84.4	37.5	21.9	\$60.09	9900	176.8	57.2	15.7		176.3	4	802.28	742.20		
13N	4B	189.9	84.4	49.2	\$135.19	11100	198.2	55.6	16.6	178.4	195.4	2	888.98	753.78		
14N	5B	126.5	56.2	32.8	\$90.06	10880	194.3	57.2	16.9		190.7	3	867.91	777.85		
15N	6B	37.5	16.7	9.7	\$26.70	8880	158.6	56.6	15.2		159.2	6	724.31	697.62		
16N	7B	25.0	11.1	6.5	\$17.80	8760	156.4	57.4	16.7		154.0	7	700.65	682.85		
17N	1C	150.0	66.7	38.9	\$113.16	11100	198.2	56.2	15.5		198.2	2	901.88	788.71		
18N	2C	56.3	25.0	14.6	\$40.05	9140	163.2	57.7	15.2		163.9	5	745.52	705.48		
19N	3C	84.4	37.5	21.9	\$60.09	10160	181.4	56.8	15.5		181.4	4	825.50	765.41		
20N	4C	189.9	84.4	49.2	\$135.19	11580	206.8	57	15.9	178.7	205.7	1	935.98	800.79		
21N	5C	126.5	56.2	32.8	\$90.06	10820	193.2	57.7	15.4		193.5	3	880.27	790.21		
22N	6C	37.5	16.7	9.7	\$26.70	8920	159.3	57.7	15.8		158.7	6	721.92	695.23		
23N	7C	25.0	11.1	6.5	\$17.80	8340	148.9	57	15.4		149.1	7	678.51	660.71		
24N	2D	56.3	25.0	14.6	\$40.05	8920	159.3	57.7	15.8		158.7	5	721.92	681.88		
25N	3D	84.4	37.5	21.9	\$60.09	9980	178.2	57.2	15.4		178.4	4	811.93	751.84		
26N	4D	189.9	84.4	49.2	\$135.19	10680	190.7	58	15.6		190.5	2	866.62	731.43		
27N	5D	126.5	56.2	32.8	\$90.06	10320	184.3	57.4	15.1	173.3	185.2	3	842.86	752.80		
28N	6D	37.5	16.7	9.7	\$26.70	8560	152.9	57.1	16.2		151.5	6	689.17	662.47		
29N	7D	25.0	11.1	6.5	\$17.80	8480	151.4	56.7	15.3		151.8	7	690.79	672.99		
30N	1D	150.0	66.7	38.9	\$113.16	10980	196.1	57.7	15.9		195.1	1	887.49	774.33		

Estimated Costs based on nutrient costs in the spring of 2008

	\$ / ton	\$ / lb
NH3	600	\$0.366
10-34-0	498	\$0.732
12-0-0-26S	225	\$0.433

Expectations

Yield goal for plot is 210 bushels per acre. Expected sales price of corn is \$4.55 per bushel. Gross receipts is expected to be \$955.5 per acre. 12% of gross receipts is \$125.58 per acre. With that as a bench mark, plot 1 or 150 pounds of N should be the profit maximizing point.

Analysis of 2008 Results

Plot	N	Yield Adjusted to 15.5% Moisture		Gross \$ @ \$4.55		Net \$ per Acre		ROI		NPV	
		Bushels	Rank	\$	Rank	\$	Rank	%	Rank	\$	Rank
1	150.0	199.1	1	905.81	1	792.65	1	700%	6	645.73	1
2	56.3	164.1	5	746.65	5	706.60	5	176%	3	580.66	5
3	84.4	179.3	4	815.90	4	755.82	4	1258%	4	619.68	3
4	189.9	197.0	2	896.42	2	761.23	3	563%	7	617.94	4
5	126.5	191.8	3	872.88	3	782.83	2	889%	5	639.52	2
6	37.5	157.5	6	716.45	6	689.75	6	2584%	2	567.84	6
7	25.0	151.7	7	690.36	7	672.56	7	3779%	1	554.36	7

It would appear there was a diminished rate of return to the fertilizer application as the higher rate was actually lower yielding than the next highest rate. The 150 pounds of nitrogen in a true ortho ratio with phosphorus and sulfur, not only had the highest gross dollars per acre, but the highest net dollars and the highest net present value of gross dollars less investment. The lower rates of fertilizer had higher return on investment which was expected due to the small investment in fertilizer. Placing only 126 pound of nitrogen actually netted more dollars than the high rate of nitrogen. Saving \$22 per acre over 2,000 saves \$44,000 per year. This data should make a nice production curve.



Garret Havel assisting in plot design.



Garret Havel, agronomist, Crop Quest.

Ben McClure at Hugoton, KS reports in.....this is Joel McClure's brother who has become quite famous in recent years for his plot work.....Ben also operates Kramer Seed Farms which is a winter wheat seed supplier..... This is a large center pivot farm in western Kansas.

Ben's results are on large plots with 28 total plots under a center pivot with Garret Havel, Crop Quest Agronomist, assisting with the data. The plots meet Steep 3 and are harvested with a weigh wagon.

We are confident this is a good set of data.

Applications of TAPPS with N above 150 pounds per acre....creates a backside of the nitrogen yield curve..... Yields do go down above 150 pounds N quite often with Exactrix Application....N rates must be reduced to take top yields....

The Marginal Return Point is between 126 pounds to 150 pounds N.....a good bet is 140 pounds N is about maximum with 30 inch band spacing...making a one time application....Side dress could bring 10 more bushels per acre.....or 15 inch band spacing with Strip Till.....and side dress in pre-plant.

Exactrix does apply 166% more crop available nitrogen....Across the Great Plains....The system does apply 166% more crop available nutrient when you include P and S.

Ben has another plot regarding phosphate rates.

Guy@comcast

From: "Ben McClure" <bjmccclure@hotmail.com>
To: "Swanson, Guy" <evbguy@comcast.net>
Sent: Wednesday, August 20, 2008 8:48 AM
Subject: '08 wheat plot results, corn plot observations

Guy,
The circle of wheat in which Joel fertilized a couple of passes with his coulter system was lost to hail on June 21st. However, being stubborn, bull headed, and curious as a cat, I still went and harvested the strip Joel made and the conventional 28% topdressed strips on either side of the Exactrix. The Exactrix sidedressed wheat averaged 5.7 bushels per acre. The 28% topdressed strips averaged 1.4 bushels per acre. The circle was probably 75 or 80 bushel wheat prior to the hail. I am sure if the hail had not come, the Exactrix sidedressed wheat would have more than a 4.3 bushel advantage. Garret, our scout with Crop Quest, was betting 10 and I was betting 15 bushel advantage to the Exactrix sidedressed wheat.

On a different note, the corn plots are looking good. Both the phosphorus and the nitrogen plots received hail from the same storm. The yields will be off somewhere between 25 and 50%. I have a scout walking the field with the nitrogen plot in it who does not know where I placed the plot or even that I changed any rates across the field. He has yet to say anything about any nitrogen deficiencies or pale strips. Garret helped me put in the plot and he can not visually identify the strips. We will be taking stalk nitrate samples on both plots as the corn gets to the proper maturity.

Harvest is about a month from getting started. I am looking forward to getting the combine in the field and finding out the results on the test plots.

Git'R Done!
Ben McClure



**Exactrix 2KC Weigh Master,
2KP TAPPS Formulator**



Plot paperwork reviewed.



Ben McClure, Joel McClure, Craig Rife and John



Large center pivot plot, Hugoton, KS.



Supplemental irrigation is required.



Large plots require a half cut and two passes.



Each plot is weighed individually.

1-800-929-9289, www.exactrix.com

General office: 509-535-9925, Northern Tier & Canada: 509-952-5458
Western Cornbelt: 620 727-3995 Eastern Cornbelt: 317-690-0474