

Table 1. Linear regression statistics for fit and significance for nitrogen (N) rate and yield, N rate recommended by Climate FieldView™ Nitrogen Management Tool (NMT), difference between the NMT N rate and the farmer rate, difference in RTN (return to nitrogen) between various rates, and the change in partial factor productivity between the NMT rate and farmer rate for 4 of 25 fields with no response to N (linear regression was not significant at P = 0.10 for N rates of 100, 150, 200 and 250 lbs/acre). RTN comparisons completed using \$4.00/bushel corn and \$0.40/lb N prices. The average yield for all treatments was used to calculate yield and RTN comparisons.

Field	Regression fit and significance			NMT N rate 15lb	Farmer N rate	Difference (Farmer N rate minus NMT rate) ¹	Difference (Farmer yield minus NMT yield)	Difference (Farmer N Rate RTN minus NMT Rate RTN)	Difference (0 lb or 100 lb RTN minus NMT Rate RTN) ²	Difference (0 lb or 100 lb RTN minus Farmer Rate RTN)	Change in Partial Factor Productivity ³
	Adj. R2	slope	p								
07NA002	0.11	0.122	0.1555	257	201	-56	0	-22	103 (63)	80 (40)	-22
12DA001	-0.06	-0.029	0.7121	223	170	-53	0	-21	89 (49)	68 (28)	-24
13DA001	0.04	-0.340	0.3001	168	141	-27	0	-11	67 (27)	56 (16)	-16
16HA003	0.01	0.119	0.3039	200	200	0	0	0	80 (40)	80 (40)	0
Mean	-	-	-	212	178	-34	0	-14	85 (45)	71 (31)	-15

¹ Positive values in columns where a difference is calculated indicate the Farmer treatment had a greater N rate, yield, or RTN than the NMT treatment.

² Values in parenthesis are for the 100 lb N rate.

³ Partial factor productivity = (NMT rate NUE - Farmer rate NUE) / (Farmer rate NUE) X 100. NUE = (yield in pounds / acre) / (applied N in lbs / acre).

Table 2. Quadratic regression statistics for fit and significance for nitrogen (N) rate and yield, agronomic optimal N rate (AONR) and economic optimal N rate (EONR) calculated from the regression, N rate recommended by NMT, difference between the NMT N rate and the farmer rate, difference in RTN (return to nitrogen) between various rates, and change in partial factor productivity between the NMT rate and farmer rate for 15 of 25 fields that showed a response to N (quadratic regression was significant at P = 0.10 for N rates of 100, 150, 200 and 250 lbs/acre). RTN comparisons completed using \$4.00/bushel corn and \$0.40/lb N prices.

Field	Regression fit and significance		EONR	AONR	NMT N rate 15lbs	Farmer N rate	Difference (Farmer N rate minus NMT N rate) ¹	Difference (Farmer yield minus NMT yield)	Difference (Farmer Rate RTN minus NMT Rate RTN)	Difference (NMT rate RTN minus EONR RTN) ²	Difference (Farmer rate RTN minus EONR RTN)	Change in Partial Factor Productivity ³
	Adj. R ²	p										
04PA002	0.87	0.000	198	214	205	186	-19	-2	-1	-1	-2	-8
05GR001	0.80	0.000	174	204	180	195	15	1	-3	0	-3	8
07NA001	0.48	0.006	171	233	176	228	52	3	-10	0	-10	28
09OT001	0.55	0.005	203	230	219	210	-9	-1	2	-2	0	-4
14GK001	0.89	0.000	205	221	168	160	-8	-3	-8	-18	-26	-3
16HA001	0.63	0.001	193	232	182	195	13	1	1	-1	0	6
16HA002	0.74	0.000	226	244	217	195	-22	-5	-9	-1	-10	-7
16HA004	0.42	0.012	195	224	200	205	5	0	0	0	-1	2
16HA005	0.80	0.000	211	235	167	200	33	7	15	-16	-1	16
23CB004	0.87	0.000	211	240	211	150	-61	-13	-26	0	-26	-23
23CB006	0.53	0.003	250	284	249	201	-48	-8	-14	0	-14	-16
24SS001	0.83	0.000	164	239	241	161	-80	-4	16	-16	0	-32
24SS002	0.40	0.014	181	214	244	201	-43	1	22	-24	-2	-18
26FF001	0.81	0.000	198	227	167	152	-15	-3	-8	-7	-14	-8
26FF002	0.90	0.000	242	268	168	190	22	8	22	-43	-21	9
Mean	-	-	-	-	200	189	-11	-1	0	-9	-9	-3
SD	-	-	-	-	29	22	35	5	13	12	9	15
Median	-	-	-	-	200	195	-9	-1	-1	-1	-3	-4

¹ Positive values in columns where a difference is calculated for the Farmer treatment indicate the Farmer treatment had a greater N rate, yield, or RTN than the NMT treatment.

² Positive values in this column indicate the NMT RTN was greater than the EONR RTN.

³ Partial factor productivity = (NMT rate NUE - Farmer rate NUE) / (Farmer rate NUE) X 100. NUE = (yield in pounds / acre) / (applied N in lbs / acre).

Table 3. Quadratic regression statistics for fit and significance for nitrogen (N) rate and yield, agronomically optimal N rate (AONR), maximum N applied in the field trial, N rate recommended by NMT, difference between the NMT N rate and the farmer rate, difference in RTN (return to nitrogen) between the NMT rate and farmer rate, and the change in partial factor productivity between the NMT rate and farmer rate for 6 of 25 fields where N rates of 100, 150, 200 and 250 lbs/acre were applied and the AONR was greater than the highest trial N rate. RTN comparisons completed using \$4.00/bushel corn and \$0.40/lb N prices.

Field	Regression fit and significance		AONR	Maximum trial rate	NMT N rate 15lb	Farmer N rate	Difference (Farmer N rate minus NMT N rate) ²	Difference (Farmer yield minus NMT yield)	Difference (Farmer Rate RTN minus NMT Rate RTN)	Change in Partial Factor Productivity ³
	Adj. R ²	p								
03AT001	0.91	0.00000	276	250	185	193	8	1	2	4
10MC002	0.88	0.00000	363	250	183	190	7	4	13	2
10MC003	0.88	0.00000	275	250	189	155	-34	-10	-28	-14
14GK002	0.95	0.00000	256	250	203	210	7	1	3	3
19EX001	0.25	0.02883	-	250	203	180	-23	-2	0	-10
20LE001	0.44	0.01142	-	250	215	110	-105	-17	-27	-43
Mean	-	-	-	-	196	173	-23	-4	-6	-10
SD	-	-	-	-	12	33	40	8	16	16
Median	-	-	-	-	196	185	-8	-1	1	-4

¹ The quadratic model was not significant but the linear model was; reported R² and p value are from the linear model. NA = not applicable because AONR cannot be calculated with a linear model.

² Positive values in columns where a difference is calculated for the Farmer treatment indicate the Farmer treatment had a greater N rate, yield or RTN than the NMT treatment.

³ Partial factor productivity = (NMT rate NUE - Farmer rate NUE) / (Farmer rate NUE) X 100. NUE = (yield in pounds / acre) / (applied N in lbs / acre).