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 8 of 34 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**	**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 or 100 lb RTN minus NMT Rate RTN)[2]**	**Difference (0 lb or 100 lb RTN minus NMT Rate RTN)**	**Change in Partial Factor Productivity[3]**
	Adj. R2	slope	p	lbs N / acre			bu / acre	$ / acre			%
03-008	-0.07	-0.002	ns	150	221	71	0	-28	60 (17)	88 (46)	47
03-128	-0.05	-0.026	ns	134	266	132	0	-53	54 (18)	106 (71)	99
05-014	0.15	0.044	ns	162	206	44	0	-17	65 (2)	82 (20)	27
08-003	-0.05	0.039	ns	206	286	80	0	-32	82 (6)	114 (38)	39
10-011	0.03	0.134	ns	184	150	-34	0	14	74 (-34)	60 (-47)	-19
12-003	0.05	0.027	ns	186	170	-16	0	6	74 (22)	68 (16)	-9
16-018	0.03	0.054	ns	130	215	85	0	-34	52 (-8)	86 (26)	65
16-019	0.11	0.056	ns	121	215	94	0	-37	49 (-15)	86 (22)	77
Mean	-	-	-	159	216	57	0	-23	64 (1)	86 (24)	41
SD	-	-	-	31	45	56	0	23	12 (19)	18 (34)	41
Median	-	-	-	156	215	75.5	0	-30	62 (4)	86 (24)	43

[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 18 of 34 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	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	lbs N / acre					bu / acre	$ / acre			%
01-293	0.68	< 0.001	199	216	147	180	33	10	27	-31	-4	17
01-294	0.46	< 0.010	171	202	192	200	8	0	-2	-3	-5	4
01-295	0.93	< 0.001	216	229	178	180	2	1	2	-21	-18	1
01-296	0.57	< 0.010	181	207	199	200	1	0	0	-3	-3	0
01-297	0.52	< 0.010	183	220	197	180	-17	-1	1	-1	0	-8
01-298	0.77	< 0.001	180	226	140	170	30	5	6	-7	0	19
01-299	0.51	< 0.010	183	231	174	180	6	1	0	0	0	3
01-300	0.92	< 0.001	189	241	165	165	0	0	0	-2	-2	0
03-007	0.32	< 0.050	193	242	110	223	113	17	24	-28	-4	82
05-016	0.28	< 0.100	176	208	200	207	7	0	-2	-4	-6	4
05-017	0.27	< 0.100	113	226	184	200	16	0	-5	-9	-13	9
05-018	0.75	< 0.010	199	220	180	203	23	5	10	-10	0	10
10-012	0.83	< 0.001	203	222	189	203	14	2	2	-2	0	6
14-013	0.66	< 0.001	192	247	189	179	-10	-1	-1	0	-1	-4
16-006	0.32	< 0.050	128	232	104	210	106	8	-11	-1	-13	92
16-016	0.41	< 0.050	199	231	201	230	29	1	-6	0	-6	14
16-017	0.83	< 0.001	191	218	172	191	19	3	3	-3	0	10
19-001	0.85	< 0.001	173	198	195	140	-55	-7	-5	-4	-8	-26
Mean	-	-	-	-	173	191	18	2	2	-7	-5	13
SD	-	-	-	-	30	22	39	5	10	-10	-5	29
Median	-	-	-	-	182	195.5	11	1	0	-3	-3	5

[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 8 of 34 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	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	lbs N / acre					bu / acre	$ / acre	%
02-002[1]	0.13	< 0.1	NA	250	158	248	90	3	-23	54
03-009	0.84	< 0.001	247	250	100	174	74	25	71	49
03-010	0.89	< 0.001	333	254	113	191	78	19	46	48
05-015	0.64	< 0.01	303	250	216	208	-8	-1	-1	-3
07-014	0.79	< 0.001	287	250	109	206	97	19	37	69
14-016	0.77	< 0.001	266	256	138	203	65	16	40	34
14-018	0.43	< 0.01	281	250	149	200	51	4	-3	31
15-002[1]	0.15	< 0.1	NA	250	194	240	46	4	-1	21
Mean	-	-	-	-	147	209	62	11	21	38
SD	-	-	-	-	41	24	33	10	32	22
Median	-	-	-	-	143.5	204.5	69.5	10	18	41

[1] The quadratic model was not significant but the linear model was; reported R^2 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.