

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 2 of 38 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 25lb	Farmer N rate	Difference (Farmer N rate minus NMT rate) <sup>1</sup>	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) <sup>2</sup>	Difference (0 lb or 100 lb RTN minus Farmer Rate RTN)	Change in Partial Factor Productivity <sup>3</sup>
	Adj. R2	slope	p								
23CB008	-0.07	0.005	ns	155	140	-15	0	6	62 (22)	56(16)	-10
23CB006	-0.01	0.036	ns	164	150	-14	0	6	66 (26)	60(20)	-9
Mean	-	-	-	160	145	-15	0	6	64 (24)	58(18)	-9

<sup>1</sup> 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.

<sup>2</sup> Values in parenthesis are for the 100 lb N rate.

<sup>3</sup> 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 23 of 38 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 25lbs	Farmer N rate	Difference (Farmer N rate minus NMT N rate) <sup>1</sup>	Difference (Farmer yield minus NMT yield)	Difference (Farmer Rate RTN minus NMT Rate RTN)	Difference (NMT rate RTN minus EONR RTN) <sup>2</sup>	Difference (Farmer rate RTN minus EONR RTN)	Change in Partial Factor Productivity <sup>3</sup>
	Adj. R <sup>2</sup>	p										
07NA002	0.92	< 0.001	206	210	181	184	3	2	7	-30	-23	1
07NA003	0.81	< 0.001	209	218	170	173	3	2	5	-34	-29	1
09OT001	0.56	0.002	210	229	202	167	-35	-8	-18	-1	-19	-14
10MC001	0.69	< 0.001	145	241	182	199	17	1	-3	-3	-6	9
10MC002	0.72	< 0.001	218	224	213	226	13	1	-1	-1	-2	6
10MC003	0.70	< 0.001	203	227	160	190	30	7	14	-16	-1	14
13DA001	0.69	< 0.001	187	219	201	137	-64	-10	-15	-1	-16	-29
14GK006	0.82	< 0.001	206	219	170	175	5	2	5	-20	-15	2
16HA001	0.76	< 0.001	238	276	147	225	78	19	44	-45	-1	36
16HA002	0.73	< 0.001	248	268	175	190	15	6	20	-53	-34	4
16HA003	0.94	< 0.001	217	236	178	200	22	6	14	-17	-3	10
16HA004	0.45	0.008	250	279	156	196	40	14	40	-60	-20	14
16HA005	0.93	< 0.001	202	225	162	210	48	8	13	-14	-1	25
19EX001	0.51	0.004	191	230	116	147	31	8	19	-29	-10	23
19EX003	0.86	< 0.001	201	223	187	144	-43	-11	-27	-2	-29	-19
21CN002	0.69	< 0.001	217	231	194	152	-42	-17	-50	-7	-57	-16
23CB004	0.88	< 0.001	197	215	172	136	-36	-12	-33	-7	-40	-17
24SS001	0.67	< 0.001	210	250	266	203	-63	-2	15	-16	0	-23
24SS002	0.90	< 0.001	202	214	199	150	-49	-16	-42	0	-43	-19
26FF002	0.81	< 0.001	211	227	155	185	30	11	32	-41	-9	13
26FF005	0.25	0.060	175	186	183	170	-13	-1	1	-1	0	-7
26FF006	0.65	< 0.001	208	237	179	185	6	1	2	-6	-4	3
ILLB001	0.62	< 0.001	211	241	219	200	-19	-2	0	0	-1	-8
<b>Mean</b>	-	-	-	-	181	180	-1	0	2	-17	-16	0
<b>SD</b>	-	-	-	-	29	26	37	9	24	18	16	16
<b>Median</b>	-	-	-	-	179	185	5	1	5	-14	-10	2

<sup>1</sup> 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.

<sup>2</sup> Positive values in this column indicate the NMT RTN was greater than the EONR RTN.

<sup>3</sup> 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 13 of 38 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 25lb	Farmer N rate	Difference (Farmer N rate minus NMT N rate) <sup>2</sup>	Difference (Farmer yield minus NMT yield)	Difference (Farmer Rate RTN minus NMT Rate RTN)	Change in Partial Factor Productivity <sup>3</sup>
	Adj. R <sup>2</sup>	p								
04PA002	0.95	<0.001	273	248	175	175	0	0	0	0
05GR001	0.82	<0.001	310	251	165	165	0	0	0	0
05GR002	0.74	<0.001	256	250	161	185	24	4	8	13
05GR003	0.97	<0.001	278	250	177	179	2	1	3	1
07NA001	0.86	<0.001	257	234	176	224	48	11	23	19
07NA004	0.94	<0.001	399	248	177	226	49	29	95	8
08MA001	0.93	<0.001	321	239	215	180	-35	-15	-47	-9
23CB005	0.77	<0.001	273	250	220	147	-73	-14	-27	-28
23CB007	0.91	<0.001	301	250	183	150	-33	-9	-23	-15
ILLB002 <sup>1</sup>	0.59	<0.001	NA	250	200	200	0	0	0	0
02MO001 <sup>1</sup>	0.52	<0.001	NA	250	237	232	-5	-1	-3	-2
04PA001 <sup>1</sup>	0.23	<0.1	NA	255	172	140	-32	-3	0	-17
21CN003 <sup>1</sup>	0.18	<0.1	NA	250	190	190	0	0	0	0
<b>Mean</b>	-	-	-	-	188	184	-4	0	2	-2
<b>SD</b>	-	-	-	-	22	29	33	11	32	12
<b>Median</b>	-	-	-	-	177	180	0	0	0	0

<sup>1</sup> The quadratic model was not significant but the linear model was; reported R<sup>2</sup> and p value are from the linear model. NA = not applicable because AONR cannot be calculated with a linear model.

<sup>2</sup> 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.

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