

2009 LAKOTA EXPERIMENT CONDUCTED BY NDSU CORN BREEDING PROGRAM

		Grain	Grain	Grain	Plant	Plant	Root	Stalk	Test
Company	Hybrid	Yield	Yield	Moisture	Density	Density	Ldg	Ldg	Weight
		t/ha	bu/A	%	pl/A	pl/ac	%	%	lb/bu
Kruger	K-6388 VT3	8.7	138.5	23.9	73194	29621	4.4	0.0	47.8
Monsanto	DKC 33-54 RR2	8.6	136.6	20.0	72965	29529	0.0	0.0	49.6
Pioneer	Pioneer Brand 39D97	8.2	130.4	24.3	73729	29838	0.0	0.0	47.8
ND06-36xAB4	078610	7.9	125.3	27.7	73194	29621	0.0	0.0	45.9
Jung Seed	3296RR	7.8	123.2	27.1	73347	29683	0.0	5.6	44.5
Hyland	Hyland HL B24R	7.7	122.0	19.9	73271	29652	5.8	0.0	49.0
Proseed	787 VT3	7.5	119.0	21.2	73652	29807	1.4	0.0	52.0
Gold Country	89-09 VT3	7.4	117.6	27.7	73805	29869	7.5	0.0	43.7
Kruger	K-6378 VT3	7.3	116.3	19.4	73347	29683	11.4	7.1	48.6
Peterson Farm Seeds	37L84	7.2	114.9	28.5	72889	29498	7.5	0.0	45.6
G2 Genetics	5H-884-RR/HX	7.2	114.3	27.9	73271	29652	7.1	11.8	47.4
Jung Seed	7236VT3	7.2	114.1	25.1	73576	29776	17.6	0.0	48.3
(LH176xLH177)x[NDSCD(MS)C11]-87-1-1	NDSU	7.1	113.6	26.6	73652	29807	2.6	4.3	44.7
NuTech	3T-083 VT3	7.1	113.5	21.0	72659	29405	7.4	0.0	49.3
Pioneer	Pioneer Brand 39V07	7.0	111.8	29.3	73423	29714	12.9	0.0	44.0
NuTech	1B-183 CB/LL	6.9	110.3	33.4	73347	29683	0.0	0.0	46.0
Seeds 2000	8201 VT3	6.9	109.0	27.7	73271	29652	2.9	0.0	47.9
Peterson Farms	21A78	6.8	108.7	21.3	72889	29498	3.0	0.0	50.4
Wensman	W 7089VT3	6.8	107.8	31.8	74111	29992	1.3	0.0	46.3
Gold Country	84-03 VT3	6.7	107.1	21.7	73194	29621	5.6	0.0	49.6
Kruger	K-6385 VT3	6.7	107.1	24.7	73576	29776	3.0	0.0	44.9
Wensman	W 7085VT3	6.7	106.9	25.7	72889	29498	5.6	0.0	48.0
Proseed	786 CB/LL/GT	6.7	106.7	34.2	72048	29158	7.1	0.0	46.5
Hyland	Hyland 08403BR	6.6	105.5	37.3	73041	29559	4.8	0.0	45.1
Gold Country	87-01 VT3	6.6	104.4	36.3	72889	29498	3.4	0.0	45.9
Jung Seed	7209VT3	6.4	102.0	34.0	73423	29714	3.1	10.9	45.0
Jung Seed	7288VT3	6.4	101.2	26.3	72583	29374	0.0	1.9	47.8

2009 NDSU CORN BREEDING EXPERIMENT 3

NORTHERN ND REGION

Kruger	K-2381 RR/YGCB	6.3	100.9	31.1	73576	29776	5.1	0.0	45.7
Kruger	K-1286 RR	6.3	100.3	31.1	73576	29776	0.0	0.0	46.6
NuTech	3A-383+ RR	6.3	99.8	26.9	72965	29529	3.1	0.0	46.9
Peterson Farm Seeds	54M83	6.2	98.3	26.8	73423	29714	0.0	0.0	48.2
Proseed	581 VT3	6.1	97.7	31.3	73194	29621	2.9	0.0	46.0
Proseed	781 RR/BT	6.0	95.6	31.2	73652	29807	2.3	0.0	45.3
Pioneer	Pioneer Brand 39N99	6.0	95.0	32.7	73882	29899	5.3	6.4	45.4
Monsanto	DKC 30-23 RR2	5.9	93.8	25.2	73041	29559	11.1	0.0	47.1
NuTech	3T-484 VT3	5.8	92.2	36.5	73271	29652	8.6	0.0	46.4
NuTech	1N-887 CB/LL/RW	5.8	92.2	31.3	72812	29467	0.0	0.0	45.8
Seeds 2000	2843 RR	5.7	90.6	28.7	73271	29652	0.0	0.0	47.4
Wensman	W 7083VT3	5.7	90.6	29.2	73194	29621	10.0	0.0	47.9
Monsanto	DKC 36-34 VT3	5.7	90.6	25.7	72965	29529	2.9	4.8	49.1
Proseed	884 VT3	5.6	89.0	22.6	72583	29374	18.4	3.2	47.8
NuTech	3A-484 RR	5.5	87.5	41.3	72659	29405	3.4	0.0	48.6
NuTech	1B-186 CB/LL	5.5	87.5	43.6	72583	29374	4.9	6.6	42.4
NuTech	3C-882 RR/YGCB	5.3	84.3	39.9	72437	29315	19.6	7.7	45.1
	MEAN	6.7	106.2	28.6	73189	29619	5.1	1.6	46.9
	CV	11.2	11.2	7.4	8	8	113.8	297.7	2.2
	LSD (0.05)	1.7	27.0	4.6	5250	2954	12.3	10.1	2.2
	LATTICE EFFICIENCY (%)	197.1	197.1	118.3	100.6	100.6	99.6	97.0	113.5

The Lattice experimental design was much more powerful than the Randomized Complete Block Design (RCBD) as shown by trait efficiencies. For instance, the statistical analysis on grain yield was 97.1% more efficient than RCBD (if the experiment was conducted as RCBD)