

Oakes Irrigation Research Site

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Corn Hybrid Performance Trial – Dryland

L. Besemann and H. Eslinger

A dryland corn hybrid performance trial was initiated in 2011 to provide information for corn producers in southeast and south central North Dakota. This study is conducted on Barnes-Svea soils that dominate the dryland farming in the area. This trial tested 69 hybrids.

MATERIALS AND METHODS

- Soil: Barnes-Svea; pH = 5.6; 3.4% organic matter; soil N 20 lbs/acre; soil P and soil K were very high; soil S was medium.
- Previous crop: 2013 – soybean.
- Seedbed preparation: Spring conventional tillage.
- Planting: Planted May 15 in 30-inch rows. Thinned to 32,800 plants/acre.
- Fertilizer: Broadcast 25 lbs N/acre, 44 lbs P₂O₅/acre and 47 lbs K₂O/acre and 19 lbs S/acre as 10-18-19-8 April 15. Stream bar 50 lbs N/acre as 28-0-0 May 28. Sidedress 85 lbs N/acre June 17 as 28-0-0.
- Pest control: Harness (2 pt/acre) May 26, Laudis (3 oz/acre) + AAtrex 9-O (0.5 lb ai/acre) + Destiny (0.05% v/v) + AMS (1½ lbs/acre) June 3.
- Harvest: November 13 with a plot combine. Harvest area was two rows 17 feet long.

RESULTS

Overall yields were the highest since the dryland trial was established in 2011 in the Oakes area. Timely moisture after planting and the growing season produced a mean yield of 185.9 bu/acre.

Table 2. Corn hybrid performance trial (dryland) Dickey County Fullerton, ND - Oakes Irrigation Research Site 2014. (Page 1 of 4)

Brand	Hybrid	RM	Hybrid Traits ¹	Days to Silk	Height		Grain Protein	Content			Test Weight	Grain Yield	
					Ear	Plant		Starch	Oil	Moist.		2014	2 yr. Avg.
					inches	inches	%	%	%	lb/bu	bu/ac	bu/ac	
Agventure	RL45616HBW	94	RR/HB/HRW	70.5	38.0	74.3	9.4	71.7	3.4	18.6	54.7	193.9	--
Agventure	RL5015YHB	95	RR/LL/YHB	73.5	38.8	72.9	9.4	72.2	3.2	18.6	53.0	180.7	--
Agventure	RL5718HBW	99	RR/HB/RW	73.5	34.1	64.5	10.4	71.6	3.3	19.0	54.4	161.3	--
Channel	190-13VT2PRIB	90	VT2P	71.0	34.4	71.5	9.6	72.4	3.2	18.3	54.7	175.7	--
Channel	196-05VT2PRIB	96	VT2P	71.3	38.4	77.1	9.6	72.0	3.7	19.2	54.4	201.2	--
Dairyland Seed	DS-9791RA	91	SSX/RA	73.5	34.9	74.6	9.4	72.8	3.1	18.2	54.0	184.6	131.8
Dairyland Seed	DS-9093	93	A3122	68.3	37.0	70.4	9.8	72.1	3.2	19.0	52.7	175.5	--
Dyna-Gro	D35VC95	95	VT2P	72.8	37.6	75.6	9.5	72.0	3.3	19.1	53.8	180.5	--
Dyna-Gro	D39VP14	99	VT3P	72.0	35.2	70.6	9.6	72.4	3.5	20.8	53.8	179.3	--
Dyna-Gro	CX14100	100	SS	73.8	41.6	80.1	9.7	72.0	3.3	18.6	52.4	182.1	--
Funk's Frontiersman	91-E3VT2P	91	VT2ProRIB	69.8	36.1	73.3	9.5	72.1	3.4	17.8	55.4	196.7	145.7
Funk's Frontiersman	97-E4 GENSS	97	GENSS/RIB	74.0	39.8	76.6	9.7	72.4	3.1	18.7	54.2	178.1	--
Hyland Seeds	8305RA	90	SSX-RA	72.0	36.4	69.2	9.4	72.8	3.1	17.7	54.1	165.1	--
Hyland Seeds	8315RA	92	SSX-RA	73.8	35.7	72.2	9.5	72.6	3.2	18.6	53.7	177.9	130.1
Integra	9412		VT2 Pro	70.0	36.3	76.3	9.1	72.5	3.3	19.0	54.8	184.4	--
Integra	3912		VT2 Pro	71.3	33.2	70.3	10.2	71.7	3.4	17.4	54.7	174.7	--
Integra	4342		VT2 Pro	72.5	36.3	73.1	9.3	72.0	3.5	19.2	54.5	185.2	--
Legacy Seeds	L3043	93	VT2Pro	72.3	35.4	69.7	9.4	72.1	3.4	19.0	54.4	192.2	--
MEAN				71.7	37.6	74.3	9.6	72.1	3.3	18.5	54.5	185.9	--
C.V. (%)				1.0	9.0	7.4	2.4	0.5	5.3	5.7	1.4	8.8	--
LSD 0.10				0.8	3.9	6.4	0.27	0.5	0.20	1.2	0.9	19.2	--
LSD 0.05				1.0	4.7	7.6	0.32	0.6	0.24	1.5	1.0	22.9	--

Planting Date = May 15; Harvest Date = November 13; Previous Crop = Soybean

Table 2. Corn hybrid performance trial (dryland) Dickey County Fullerton, ND - Oakes Irrigation Research Site 2014. (Page 2 of 4)

Brand	Hybrid	RM	Hybrid Traits ¹	Days to Silk	Height		Grain Protein	Content			Test Weight	Grain Yield	
					Ear	Plant		Starch	Oil	Moist.		2014	2 yr. Avg.
					inches	inches	%	%	%	lb/bu	bu/ac	bu/ac	
Legacy Seeds	L3423	94	GENSS	71.8	36.2	71.4	9.8	72.2	3.3	17.8	54.3	180.4	--
Legacy Seeds	L3612	95	VT3Pro	73.0	37.4	77.5	9.6	72.4	3.2	19.3	53.9	187.4	--
Legacy Seeds	L3712	96	VT3Pro	73.0	34.1	66.7	10.0	71.9	3.3	18.5	55.4	190.2	--
Legacy Seeds	L3844	98	GENSS	73.3	41.3	78.5	9.7	72.7	3.0	18.0	55.0	189.6	--
Mycogen Seeds	2V357		SSXRA	73.5	33.5	71.4	9.7	72.4	3.4	19.5	53.5	186.0	--
Mycogen Seeds	2G365		3000GT	69.3	37.9	73.3	9.8	72.0	3.4	19.8	52.4	171.3	--
Nuseed	9001 VP3220	90	Viptera 3220	73.8	41.8	80.8	10.3	72.6	2.5	18.1	53.3	173.7	126.3
Nuseed	9304 VT2P	93	vt double pro	72.0	36.1	72.9	9.4	72.3	3.4	18.2	54.9	180.8	--
Nuseed	9505 VT2P	95	vt double pro	71.8	32.5	65.6	10.0	71.6	3.4	18.7	56.0	194.3	--
Nuseed	9504 VT3P	95	vt triple pro	70.3	37.3	74.4	9.5	72.7	3.4	19.0	54.8	178.3	137.1
NuTech	5B-195	95	GT/CB/LL/RW/BL	73.0	39.3	76.9	9.9	73.0	2.5	18.4	53.6	179.6	--
NuTech/G2 Genetics	5X-894	94	HXT/RR2/LL	70.8	36.6	71.7	9.5	71.8	3.4	19.0	54.5	200.9	143.7
NuTech/G2 Genetics	5Y-196	96	YGCB/HX1/RR2/LL	72.8	39.9	73.5	9.4	72.3	3.2	18.1	53.7	199.9	--
NuTech/G2 Genetics	5F-295	95	YGCB/HX1/RR2/LL	69.0	35.3	69.5	10.1	71.6	3.7	19.1	54.5	180.9	--
NuTech/G2 Genetics	5X-698	98	HXT/RR2/LL	72.3	40.8	78.5	9.5	71.8	3.2	18.2	54.3	179.6	133.9
NuTech/G2 Genetics	5F-198	98	YGCB/HX1/RR2/LL	72.5	39.0	78.1	9.3	71.5	3.7	18.8	51.7	198.7	--
NuTech/G2 Genetics	5F-399	99	YGCB/HX1/RR2/LL	73.3	39.0	76.7	8.7	72.3	3.5	19.0	52.6	197.1	--
PFS	76S92	92	VT2P	71.5	40.4	78.4	9.3	72.2	3.6	19.4	55.2	202.5	138.8
MEAN				71.7	37.6	74.3	9.6	72.1	3.3	18.5	54.5	185.9	--
C.V. (%)				1.0	9.0	7.4	2.4	0.5	5.3	5.7	1.4	8.8	--
LSD 0.10				0.8	3.9	6.4	0.27	0.5	0.20	1.2	0.9	19.2	--
LSD 0.05				1.0	4.7	7.6	0.32	0.6	0.24	1.5	1.0	22.9	--

Planting Date = May 15; Harvest Date = November 13; Previous Crop = Soybean

Table 2. Corn hybrid performance trial (dryland) Dickey County Fullerton, ND - Oakes Irrigation Research Site 2014. (Page 3 of 4)

Brand	Hybrid	RM	Hybrid Traits ¹	Days to Silk	Height		Grain Protein	Content			Test Weight	Grain Yield	
					Ear	Plant		Starch	Oil	Moist.		2014	2 yr. Avg.
					inches	inches	%	%	%	lb/bu	bu/ac	bu/ac	
PFS	81W95	95	SS	70.5	39.1	77.0	9.7	72.1	3.4	18.2	53.7	203.6	--
PFS	55S96	96	VT3P	72.0	34.6	67.8	9.8	71.8	3.5	18.5	55.9	188.3	140.6
PFS	82H99	99	SS	73.3	44.1	81.5	10.1	71.0	3.6	18.3	53.7	203.6	--
Proseed	1385 VT2P	85	VT2P	68.5	35.4	76.5	9.6	72.3	3.3	18.2	56.4	165.9	--
Proseed	990 GT3000	90	3000GT	72.0	39.9	75.4	10.1	73.0	2.6	17.4	52.6	193.0	144.7
Proseed	1292 VT2P	92	VT2P	70.3	39.2	77.0	9.0	72.7	3.5	18.3	55.1	203.0	--
Proseed	1191 VT2P	91	VT2P	69.8	38.7	76.8	9.3	72.0	3.5	18.7	54.6	174.4	--
Proseed	1393 VT2P	93	VT2P	69.3	37.1	74.2	9.6	72.6	3.2	18.2	55.8	173.0	--
Proseed	1397 SS	97	SS	73.5	36.2	69.6	9.9	72.1	3.1	17.7	54.5	183.8	--
Proseed	1396 SS	96	SS	72.5	36.0	75.0	9.6	71.7	3.6	17.8	55.3	186.0	--
REA Hybrids	3B922-RIB	92	RR2 Bt	70.5	37.1	71.2	9.1	72.5	3.4	18.8	55.7	189.7	--
REA Hybrids	3A929-RIB	92	RR2 Bt CRW	72.0	34.9	70.2	9.9	72.0	3.3	18.2	55.1	185.5	137.5
REA Hybrids	4B285-RIB	93	RR2 Bt	70.0	40.7	76.9	9.2	72.3	3.2	18.7	54.4	179.5	132.4
REA Hybrids	4B941-RIB	94	RR2 Bt	72.0	38.5	76.5	10.0	71.8	3.3	18.0	55.3	193.2	--
REA Hybrids	4A942-RIB	94	RR2 Bt CRW	71.8	38.3	73.5	9.7	72.0	3.3	17.9	54.9	190.9	--
REA Hybrids	4V953-RIB	95	RR2 Bt CRW	72.8	38.6	78.2	9.7	72.3	3.1	18.7	54.8	199.5	--
REA Hybrids	4A971-RIB	97	RR2 Bt CRW	72.5	38.3	72.8	9.6	72.7	3.1	19.6	54.6	199.4	--
REA Hybrids	4A972-RIB	97	RR2 Bt CRW	71.8	38.5	74.7	9.6	71.7	3.4	18.1	55.2	185.5	--
MEAN				71.7	37.6	74.3	9.6	72.1	3.3	18.5	54.5	185.9	--
C.V. (%)				1.0	9.0	7.4	2.4	0.5	5.3	5.7	1.4	8.8	--
LSD 0.10				0.8	3.9	6.4	0.27	0.5	0.20	1.2	0.9	19.2	--
LSD 0.05				1.0	4.7	7.6	0.32	0.6	0.24	1.5	1.0	22.9	--

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Table 2. Corn hybrid performance trial (dryland) Dickey County Fullerton, ND - Oakes Irrigation Research Site 2014. (Page 4 of 4)

Brand	Hybrid	RM	Hybrid Traits ¹	Days to Silk	Height		Grain Protein	Content			Test Weight	Grain Yield	
					Ear	Plant		Starch	Oil	Moist.		2014	2 yr. Avg.
					inches	inches	%	%	%	lb/bu	bu/ac	bu/ac	
Renk	RK522SSTX	94	SSTX	71.3	38.0	77.2	9.9	71.9	3.4	19.3	54.2	198.4	--
Renk	RK568VT3P	95	VT3P	71.5	36.4	72.3	9.9	72.0	3.4	17.8	55.9	191.4	--
Thunder	7993		VT2P	71.5	35.9	72.1	9.4	71.9	3.6	18.4	55.1	185.3	--
Thunder	7396		VT2P	71.8	40.8	81.0	9.4	72.7	3.0	17.1	54.3	195.8	--
Thunder	4391		VT2P	71.0	38.5	75.1	9.3	72.3	3.4	18.1	54.5	180.7	--
Thunder	9595		VT3P	72.0	37.4	72.5	9.9	72.0	3.2	18.3	56.1	183.1	--
Thunder	7188		VT2P	69.8	39.6	79.3	10.0	71.1	3.6	17.3	56.7	179.3	--
Thunder	6987		VT2P	69.0	36.6	77.1	9.4	72.4	3.4	18.1	56.9	153.9	--
Wensman Seed	W 90935STXRIB	93	Smart Stax, RR2	70.3	40.1	77.4	9.9	72.1	3.2	17.8	55.9	178.8	--
Wensman Seed	W 90941STX	94	Smart Stax, RR2	70.8	39.6	77.0	9.4	71.5	3.6	18.4	53.5	188.9	--
Wensman Seed	W 7268VT3RIB	96	VT3PRO, RR2	71.3	37.6	75.0	9.3	72.3	3.3	18.2	54.9	201.6	--
Wensman Seed	W 90967STXRIB	96	Smart Stax, RR2	71.3	37.1	73.0	9.9	72.5	3.0	19.8	54.7	184.3	--
Wensman Seed	W 70975VT3PRIB	97	VT3PRO, RR2	72.0	37.6	71.9	10.0	71.8	3.4	19.5	55.7	190.7	--
Wensman Seed	W 90979STX	97	Smart Stax, RR2	73.5	39.3	77.1	9.5	72.5	2.9	18.0	53.8	194.0	--
Wensman Seed	W 9288STXRIB	98	Smart Stax, RR2	73.8	40.6	79.3	9.1	71.9	3.5	19.1	53.3	183.3	--
MEAN				71.7	37.6	74.3	9.6	72.1	3.3	18.5	54.5	185.9	--
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Planting Date = May 15; Harvest Date = November 13; Previous Crop = Soybean

¹ Hybrid traits as reported by seed company when hybrids submitted for evaluation.

**Four (4) replications were utilized to record each of the traits reported.

Oakes Irrigation Research Site

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