

## 2006 Colorado and Nebraska Panhandle Skip Row vs Conventional 4-row Corn Hybrid Performance Trial Results at four trial locations

### Dryland corn conventional 4-row variety performance trial at Akron<sup>1</sup> in 2006.

Hybrid	Yield	Grain	Test	Density	Lodging	Ear
		Moisture	Weight			Density
	bu/ac	%	lb/bu	plants/ac	%	%
DKC52-40 (TMI AZ06)	36.6	12.6	50.4	17274	4.2	0.0
DKC52-40 (Myc 1x)	34.9	18.0	58.3	18196	4.7	0.4
DEKALB DKC48-53 (RR2/YGCB)	34.5	14.5	58.5	17223	4.2	1.2
DEKALB DKC38-33 (RR2/YGCB)	28.4	15.7	57.8	18478	7.3	0.0
DEKALB DKC52-40 (RR2/YGPL)	28.0	17.3	58.5	18258	3.5	0.8
Triumph TRX6221CbRR (YGCB/RR)	27.5	16.5	57.0	19391	2.9	0.0
DKC52-40 (Myc 2x)	27.3	14.2	58.4	19672	3.8	0.0
Trisler T-2850 (RR2CB)	24.6	18.8	58.9	19461	1.5	0.0
HPALC 5	23.5	14.7	0.0	14823	2.9	0.0
DKC52-40 (Myc carrier)	22.8	18.1	57.5	18337	0.4	0.4
<b>Average</b>	<b>28.8</b>	<b>16.0</b>	<b>51.5</b>	<b>18111</b>	<b>3.5</b>	<b>0.3</b>
LSD <sub>(0.30)</sub>	8.2	3.1	2.7	1218	3.0	0.7

<sup>1</sup>Trial conducted at the Central Great Plains Field Station; seeded 5/15 and harvested 11/6.

\*Dry top soil at planting. Drought and high temperatures during June and July.

\*\*No test weight available, insufficient sample.

#### Site Information

Plot Size: 10' x 31 with 30 inch row spacing; no-till

Experimental Design: randomized complete block, 4 replications

Previous Crop: wheat

Planting rate: planted at 15,000 seeds/ac.

Planted ~18,500 seeds/ac intending to thin to population but plots were not thinned.

Growing Degree Days: 2720 (2006 GDD); 2493 (Long Term Ave GDD)

Precipitation: May 4 - September 30, 11.69 inches, 84 % of normal.

Soil Type: Rago silt loam

Fertilization: none

Herbicide: Round-up

Bactericide: none

Insecticide: none

### Dryland corn skip row block performance trial at Akron<sup>1</sup> in 2006.

Hybrid	Yield	Grain	Test	Density	Lodging	Ear
		Moisture	Weight			Density
	bu/ac	%	lb/bu	plants/ac	%	%
DKC52-40 (Myc 1x)	30.9	15.2	58.9	17459	0.2	0.0
DKC52-40 (TMI AZ06)	30.9	13.9	59.1	17213	1.7	0.0
DKC52-40 (Myc carrier)	28.8	14.8	58.6	18021	0.4	0.0
DEKALB DKC52-40 (RR2/YGPL)	28.4	16.2	58.8	17775	0.4	0.2
DKC52-40 (Myc 2x)	25.3	14.1	58.6	17521	0.8	0.0
DEKALB DKC48-53 (RR2/YGCB)	24.3	14.2	57.3	17389	0.2	0.0
Triumph TRX6221CbRR (YGCB/RR)	24.2	14.4	57.4	17424	0.0	0.0
DEKALB DKC38-33 (RR2/YGCB)	21.2	15.2	58.0	16405	1.5	0.0
HPALC 5	20.1	15.0	58.9	12850	0.0	0.0
Trisler T-2850 (RR2CB)	17.6	22.1	58.4	16230	0.0	0.0
<b>Average</b>	<b>25.2</b>	<b>15.5</b>	<b>58.4</b>	<b>16829</b>	<b>0.5</b>	<b>0.0</b>
LSD <sub>(0.30)</sub>	5.4	1.1	0.4	603	0.4	0.1

<sup>1</sup>Trial conducted at the Central Great Plains Field Station; seeded 5/15 and harvested 11/6.

\*Dry top soil at planting. Drought and high temperatures during June and July.

#### Site Information

Plot Size: 10' x 31 with 30 inch row spacing; no-till

Experimental Design: randomized complete block, 4 replications

Previous Crop: wheat

Planting rate: target population 15,000 plants/ac.

Planting rate: planted at 15,000 seeds/ac.

Growing Degree Days: 2720 (2006 GDD); 2493 (Long Term Ave GDD)

Precipitation: May 4 - September 30, 11.69 inches, 84 % of normal.

Soil Type: Rago silt loam

Fertilization: none

Herbicide: Round-up

Bactericide: none

Insecticide: none

Insecticide: none

**Dryland corn conventional 4-row variety performance trial at Dailey<sup>1</sup> in 2006.**

Hybrid	Yield	Grain Moisture	Test Weight	Cob Height	Density	Lodging	Ear Drop
	bu/ac	%	lb/bu	in	plants/ac	%	%
DKC52-40 (Myc 2x)	70.7	13.3	56.6	25	19532	0.0	0.4
DKC52-40 (Myc carrier)	69.1	13.7	56.8	24	18834	0.0	0.0
DEKALB DKC48-53 (RR2/YGCB)	67.6	13.4	56.2	27	19261	0.0	0.4
DEKALB DKC38-33 (RR2/YGCB)	65.9	13.7	57.7	27	19269	0.0	0.0
DKC52-40 (TMI AZ06)	65.5	13.5	56.6	26	20094	0.0	0.0
DKC52-40 (Myc 1x)	62.7	13.8	56.8	24	19532	0.0	0.0
DEKALB DKC52-40 (RR2/YGPL)	61.1	13.5	56.2	25	19251	0.8	0.7
Triumph TRX6221CbRR (YGCB/RR)	57.9	13.3	55.2	26	18337	0.0	0.0
HPALC 5	41.6	14.0	56.9	25	14697	0.0	1.0
Trisler T-2850 (RR2CB)	41.1	15.5	56.3	24	17124	0.0	0.4
<b>Average</b>	<b>60.3</b>	<b>13.8</b>	<b>56.5</b>	<b>25</b>	<b>18593</b>	<b>0.1</b>	<b>0.3</b>
LSD <sub>(0.30)</sub>	8.9	0.5	0.6	2	875	0.4	0.5

<sup>1</sup>Trial conducted on the Mark and Neil Lambert farm; seeded 5/22 and harvested 11/2.

\*Dry soil at planting time; hail in mid-June severely stripped leaves, but got needed moisture (+ 2 in).

**Site Information**

Plot Size: 10' x 31 with 30 inch row spacing; no-till

Experimental Design: randomized complete block, 4 replications

Previous Crop: wheat

Planting rate: target population 15,000 plants/ac.

Planted ~18,500 seeds/ac intending to thin to 15,000 plants/ac but plots were not thinned.

Growing Degree Days: 2758 (2006 GDD); 2545 (Long Term Ave GDD)

Precipitation: May 4 - Sept. 30 10.9 inches, 90% of normal.

Soil Type: Haxtun sandy loam

Fertilization: 65 lbs N acre<sup>-1</sup>; 35 lbs P<sub>2</sub>O<sub>5</sub> acre<sup>-1</sup>; 1 ton manure

Herbicide: Steadfast, Clarity

Bactericide: none

Insecticide: none

Insecticide: none

**Dryland corn skip row block performance trial at Dailey<sup>1</sup> in 2006.**

Hybrid	Yield	Grain Moisture	Test Weight	Cob Height	Density	Lodging	Ear Drop
	bu/ac	%	lb/bu	in	plants/ac	%	%
DKC52-40 (TMI AZ06)	57.7	13.1	56.6	22	17810	0.0	0.0
DEKALB DKC48-53 (RR2/YGCB)	53.1	13.3	55.8	25	18091	0.2	0.4
DEKALB DKC52-40 (RR2/YGPL)	53.1	13.2	55.8	25	17565	0.0	0.0
DKC52-40 (Myc 2x)	52.6	13.2	55.8	22	17178	0.0	0.0
DKC52-40 (Myc 1x)	50.8	13.4	55.9	23	17740	0.0	1.0
DEKALB DKC38-33 (RR2/YGCB)	49.9	13.5	57.6	23	17881	0.0	0.4
DKC52-40 (Myc carrier)	40.8	13.5	55.5	23	17740	0.0	0.0
Triumph TRX6221CbRR (YGCB/RR)	40.6	13.0	53.7	24	17565	0.0	0.0
HPALC 5	33.3	13.7	55.7	25	12787	0.0	1.3
Trisler T-2850 (RR2CB)	28.5	18.0	54.9	22	17038	0.0	0.4
<b>Average</b>	<b>46.0</b>	<b>13.8</b>	<b>55.7</b>	<b>23</b>	<b>17139</b>	<b>0.0</b>	<b>0.4</b>
LSD <sub>(0.30)</sub>	7.6	0.6	0.5	1	431	0.1	0.4

<sup>1</sup>Trial conducted on the Mark and Neil Lambert farm; seeded 5/22 and harvested 11/2.

\*Dry soil at planting time; hail in mid-June severely stripped leaves, but got needed moisture (+ 2 in).

Grass infestation in skip rows aided by late season rains.

**Site Information**

Plot Size: 10' x 31 with 30 inch row spacing; no-till

Experimental Design: randomized complete block, 4 replications

Previous Crop: wheat

Planted ~18,500 seeds/ac intending to thin to 15,000 plants/ac but plots were not thinned.

Planted ~18,500 seeds/ac intending to thin to population but plots were not thinned.

Growing Degree Days: 2758 (2006 GDD); 2545 (Long Term Ave GDD)

Precipitation: May 4 - Sept. 30 10.9 inches, 90% of normal.

Soil Type: Haxtun sandy loam

Fertilization: 65 lbs N acre<sup>-1</sup>; 35 lbs P<sub>2</sub>O<sub>5</sub> acre<sup>-1</sup>; 1 ton manure

Herbicide: Steadfast, Clarity

Bactericide: none

Insecticide: none

## Dryland corn conventional 4-row variety performance trial at Ogallala<sup>1</sup> in 2006.

Investigator: Bob Klein

Hybrid	Yield bu/ac	Grain	Test	Dropped	Broken	
		Moisture %	Weight lb/bu			Density plants/ac
DEKALB DKC38-33 (RR2/YGCB)	5.3	8.8	62.4	14074	2.3	20.7
DKC52-40 (TMI AZ06)	2.9	6.4	30.8	14106	0.6	5.8
DEKALB DKC52-40 (RR2/YGPL)	2.8	5.6	30.8	13740	0.6	16.0
HPALC 5	2.3	4.4	47.8	11070	4.0	11.5
Triumph TRX6221CbRR (YGCB/RR)	2.1	4.0	31.6	13994	1.8	50.2
Trisler T-2850 (RR2CB)	1.5	1.6	16.2	12974	0.0	8.2
DKC52-40 (Myc 2x)	1.2	4.9	31.5	13476	0.0	0.7
DKC52-40 (Myc carrier)	1.1	0.0	0.0	13864	0.0	10.7
DEKALB DKC48-53 (RR2/YGCB)	1.0	3.1	15.5	14008	1.2	13.2
DKC52-40 (Myc 1x)	0.6	0.7	0.0	13942	0.6	15.5
<b>Average</b>	<b>2.1</b>	<b>3.9</b>	<b>26.7</b>	<b>13525</b>	<b>1.1</b>	<b>15.2</b>
LSD <sub>(0.30)</sub>	1.4	2	21.0	510	1.9	14.2

<sup>1</sup>Trial conducted on the Darrol Eichner farm; seeded 5/11 and harvested 10/13.

\*Mid-July it was very hot and windy, and most dryland corn was severely damaged. The reduced stand of HPALC 5 was due to poor emergence but that may have contributed to higher yield.

\*\*No moisture and test weights there was not enough grain in a plot to accurately measure.

### Site Information

Plot Size: 10' x 31 with 30 inch row spacing; no-till

Experimental Design: randomized complete block, 4 replications

Previous Crop: wheat

Planting rate: planted at 15,000 seeds/ac.

Soil Type: Vetal loamy fine sand, pH 4.86 OM 1.02%

Fertilization: 60 lb N as 28-0 preemergence

Herbicide: 1.75 qt Lumax May 11

Bactericide: none

Insecticide: Lorsban

### Trial Observations

Obviously the yields are near zero. The conventional 4-row plots were severely drought stricken and unable to make and fill ears. Compare these yields with the skip row plots that yielded ~20 bu/ac in the same drought conditions.

## Dryland corn skip row block variety performance trial at Ogallala<sup>1</sup> in 2006.

Investigator: Bob Klein

Hybrid	Yield bu/ac	Grain	Test	Dropped	Broken	
		Moisture %	Weight lb/bu			Density plants/ac
HPALC 5	25.4	13.1	60.3	10553	2.0	2.4
Trisler T-2850 (RR2CB)	22.7	13.0	60.4	12570	0.0	4.6
DEKALB DKC38-33 (RR2/YGCB)	21.0	14.1	59.6	13425	0.6	23.1
DKC52-40 (Myc carrier)	21.0	14.3	59.3	13092	0.6	4.2
DEKALB DKC48-53 (RR2/YGCB)	20.6	13.8	59.8	13538	0.0	27.6
DEKALB DKC52-40 (RR2/YGPL)	20.2	14.1	59.5	12943	0.3	2.2
DKC52-40 (Myc 1x)	19.5	13.0	60.3	13212	0.6	0.3
DKC52-40 (TMI AZ06)	18.5	13.5	59.9	13196	0.6	0.9
DKC52-40 (Myc 2x)	13.4	14.9	59.2	12767	1.3	2.6
Triumph TRX6221CbRR (YGCB/RR)	11.9	13.7	59.8	13481	0.9	4.1
<b>Average</b>	<b>19.4</b>	<b>13.7</b>	<b>59.8</b>	<b>12878</b>	<b>0.7</b>	<b>7.2</b>
LSD <sub>(0.30)</sub>	4.5	0.9	0.7	567	0.6	3.4

<sup>1</sup>Trial conducted on the Darrol Eichner farm; seeded 5/11 and harvested 10/13.

\*Mid-July it was very hot and windy, and most dryland corn was severely damaged. The reduced stand of HPALC 5 was due to poor emergence but that may have contributed to higher yield.

### Site Information

Plot Size: 10' x 31 with 30 inch row spacing; no-till

Experimental Design: randomized complete block, 4 replications

Previous Crop: winter wheat in a typical ecofallow rotation

Planting rate: planted at 15,000 seeds/ac.

Soil Type: Vetal loamy fine sand, pH 4.86 OM 1.02%

Fertilization: 60 lb N as 28-0 preemergence

Herbicide: 1.75 qt Lumax May 11

Bactericide: none

Insecticide: Lorsban

### Trial Comments

Although mean yields for the varieties appear different, the high yield variation led to non-significant differences. Most important is that the skip row plot yielded ~20 bu/ac in extreme drought conditions while the same varieties planted in the conventional 4-row system yielded about 2 bu/ac.

### Dryland corn conventional 4-row variety performance trial at Sidney<sup>1</sup> in 2006.

Hybrid	Yield bu/ac	Grain	Test	Plant	Ear	Ear
		Moisture %	Weight lb/bu	Height in	Height in	Node #
DKC52-40 (Myc 2x)	68.5	19.0	57.6	58.5	25.0	7.3
DEKALB DKC52-40 (RR2/YGPL)	67.6	18.7	57.4	58.3	26.0	7.5
DEKALB DKC48-53 (RR2/YGCB)	62.3	18.5	56.5	59.3	24.5	7.3
Triumph TRX6221CbRR (YGCB/RR)	60.9	20.4	54.9	58.3	24.0	7.0
DKC52-40 (Myc carrier)	58.0	18.0	58.0	57.8	25.8	7.8
DEKALB DKC38-33 (RR2/YGCB)	57.6	16.9	58.4	61.8	23.0	6.8
DKC52-40 (TMI AZ06)	53.5	19.8	55.9	55.3	24.0	7.5
HPALC 5	45.0	19.1	55.8	55.8	22.5	7.0
DKC52-40 (Myc 1x)	44.2	19.3	56.6	58.3	24.8	7.3
Trisler T-2850 (RR2CB)	37.0	21.8	55.4	61.5	23.8	6.5
<b>Average</b>	<b>55.5</b>	<b>19.1</b>	<b>56.6</b>	<b>58.5</b>	<b>24.3</b>	<b>7.2</b>
LSD <sub>(0.30)</sub>	7.8	0.8	0.9	1	2	0.4

<sup>1</sup>Trial conducted at the University of Nebraska High Plains Ag Lab; seeded 5/11 and harvested 10/20.

\*All entries had lower yields in the skip row block.

In general, the double skip-row planting pattern lowered test weights, shortened plants, lowered ears, and increased double earing. Initial emergence was poor and variable, due to extreme dry conditions at planting time. Many plants didn't emerge until after rains in the last week of June. Rain at the end of season increased yields.

#### Site Information

Plot Size: 5' x 24

Experimental Design: randomized complete block, 4 replications

Previous Crop: wheat

Planting rate: planted at 15,000 seeds/ac.

Soil Type: Alliance loam

Fertilization: 7 lbs N acre<sup>-1</sup>; 24 lbs P<sub>2</sub>O<sub>5</sub> acre<sup>-1</sup>; .75 lbs Zn acre<sup>-1</sup>; 50 lb N (32-0-0)

Herbicide: Roundup preplant, Atrazine, Dual, Lorsban preemergence

Bactericide: none

Insecticide: none

### Dryland corn skip row block variety performance trial at Sidney<sup>1</sup> in 2006

Hybrid	Yield bu/ac	Grain	Test	Plant	Ear	Ear
		Moisture %	Weight lb/bu	Height in	Height in	Node #
DKC52-40 (TMI AZ06)	69.6	18.3	57.4	57	23	8.0
DEKALB DKC52-40 (RR2/YGPL)	59.7	18.8	55.6	54	21	7.8
DEKALB DKC38-33 (RR2/YGCB)	51.4	16.0	59.1	56	22	7.3
DEKALB DKC48-53 (RR2/YGCB)	50.5	21.0	54.8	55	20	6.8
DKC52-40 (Myc 1x)	50.1	19.9	54.6	56	22	7.0
DKC52-40 (Myc carrier)	49.2	19.2	56.4	54	22	7.8
Trisler T-2850 (RR2CB)	46.5	23.1	54.1	57	18	7.3
Triumph TRX6221CbRR (YGCB/RR)	45.0	24.1	52.0	56	20	7.5
DKC52-40 (Myc 2x)	44.3	18.6	55.8	55	22	8.0
HPALC 5	28.4	17.8	55.8	49	16	7.0
<b>Average</b>	<b>49.5</b>	<b>19.7</b>	<b>55.6</b>	<b>55</b>	<b>20</b>	<b>7.4</b>
LSD <sub>(0.30)</sub>	12.2	1.6	1.3	2	2	0.5

<sup>1</sup>Trial conducted at the University of Nebraska High Plains Ag Lab; seeded 5/11 and harvested 10/20.

\*All entries had lower yields in the skip row block.

In general, the double skip-row planting pattern lowered test weights, shortened plants, lowered ears, and increased double earing. Initial emergence was poor and variable, due to extreme dry conditions at planting time. Many plants didn't emerge until after rains in the last week of June. Rain at the end of season increased yields.

#### Site Information

Plot Size: 5' x 24

Experimental Design: randomized complete block, 4 replications

**Planting rate: mistakenly planted at 7,500 seeds/ac, instead of 15,000 seed/ac.**

Previous Crop: wheat

Soil Type: Alliance loam

Fertilization: 7 lbs N acre<sup>-1</sup>; 24 lbs P<sub>2</sub>O<sub>5</sub> acre<sup>-1</sup>; .75 lbs Zn acre<sup>-1</sup>; 50 lb N (32-0-0)

Herbicide: Roundup preplant, Atrazine, Dual, Lorsban preemergence

Bactericide: none

Insecticide: none