

# 2008 Colorado and Nebraska Skip Row vs. Full Row Dryland Corn Variety Trial Results

Jerry Johnson<sup>1</sup>, Jim Hain<sup>1</sup>, Alex Pavlista<sup>2</sup>, Robert Klein<sup>2</sup>, and Jeffery Golus<sup>2</sup>

Dryland corn in NE Colorado and in the Nebraska panhandle is generally susceptible to drought stress and many farmers, since the invent of Round-up Ready (RR) corn hybrids, have adopted skip row corn planting systems. The theory is that, in years of drought (especially drought during the critical end of July and beginning of August time period), precipitation can be captured and stored in skipped rows for use by the corn plant during the critical period. Over the years this skip row trial has generally shown that at yield levels below approximately 50-70 bu/ac, higher skip row yields have been observed than in a full row planting system. The intent of this trial is to determine if there are some RR hybrids that are more tolerant to drought stress than others and to help farmers make better variety decisions for skip row planting systems. Since it is impossible to determine if a dryland corn trial will suffer from drought, this trial is conducted in four locations to improve the probability that one or more locations will allow us to determine if there is a benefit from skip row vs full row planting systems. Two seed products have been added to this trial to test their performance, under skip row and full row planting systems, by comparison to the check hybrid (Dyna-Gro Seed 55B31 RR2/YGPL).

In 2008, dryland corn yields in the trials, and in farmers fields, were generally too high to demonstrate of benefits of skip row over full row planting systems. No conclusions can be drawn from a single year of skip row trial results but there were some yield trends shown. Across the four locations the average difference between full row yield and skip row yield was 13 bu/ac. However, the average difference between full row and skip row yield of some hybrids was lower (smallest difference, 8 bu/ac) than other hybrids (largest difference, 18 bu/ac). Multiple years of results will allow us to fully describe the differences among planting systems and differences among hybrids in the two systems. In 2008, on the average over the four locations and two planting systems, both products showed beneficial yield trends (~1 bu/ac for Myconate) and (~4 bu/ac) for Micro-AZ.

<sup>1</sup>Colorado State University

<sup>2</sup>University of Nebraska

Hybrid (alphabetical)	Akron, CO <sup>1</sup>		Dailey, CO <sup>2</sup>		North Platte, NE <sup>3</sup>		Scottsbluff, NE <sup>4</sup>	
	<sup>5</sup> Yield bu/ac		<sup>5</sup> Yield bu/ac		<sup>5</sup> Yield bu/ac		<sup>5</sup> Yield bu/ac	
	Skip row	Full row	Skip row	Full row	Skip row	Full row	Skip row	Full row
DEKALB DKC49-32 (VT3)	67.7	78.2	91.1	109.5	108.9	129.0	58	65
DEKALB DKC52-59 (VT3)	82.0	77.7	100.1	116.4	116.3	138.0	52	75
DEKALB DKC55-24 (VT3)	63.1	61.3	97.7	118.8	108.7	124.0	48	69
Dyna-Gro Seed 55B31 RR2/YGPL	79.0	73.1	79.8	109.1	106.0	125.5	35	40
Dyna-Gro Seed 55B31 RR2/YGPL + Myconate <sup>6</sup>	79.1	68.6	77.9	102.7	116.9	140.3	32	41
Dyna-Gro Seed 55B31 RR2/YGPL + Micro-AZ <sup>7</sup>	83.5	84.1	84.8	101.8	104.3	130.1	34	58
Dyna-Gro Seed 55B49 RR2/YGPL	64.6	67.8	83.4	104.7	110.5	127.5	51	56
Dyna-Gro Seed 55P86 RR2/YGCB	74.6	68.1	81.0	109.2	111.7	132.2	37	47
Dyna-Gro Seed 57B94 RR2/YGPL	52.3	54.1	86.5	108.6	116.4	138.5	41	46
Dyna-Gro Seed 57R91 RR2/LL/HXX	65.4	57.7	91.3	112.5	106.5	130.9	28	50
Dyna-Gro Seed 57V07 VT3	59.9	41.5	94.2	112.5	107.4	133.6	41	47
Dyna-Gro Seed 57V77 VT3	80.0	88.9	94.8	110.4	113.3	130.5	55	71
Dyna-Gro Seed CXO8115 RR2/YGCB	65.9	81.1	76.0	86.3	112.3	133.0	42	56
LG Seeds LG2507VT3	63.3	62.2	90.9	112.0	120.6	137.2	29	34
LG Seeds LG2532VT3	71.8	80.9	74.3	117.4	114.8	124.7	34	43
<b>Average</b>	<b>70.1</b>	<b>69.7</b>	<b>86.9</b>	<b>108.8</b>	<b>111.6</b>	<b>131.7</b>	<b>41</b>	<b>53</b>
LSD <sub>0.05</sub>	18.8	19.3	14.2	16.9	13.4	14.5	12	15

<sup>1</sup>Trial conducted on the USDA Central Great Plains Research Station.

<sup>2</sup>Trial conducted on the Mark and Neal Lambert farm.

<sup>3</sup>Trial conducted at the University of Nebraska West Central Research and Extension Center.

<sup>4</sup>Trial conducted at University of Nebraska Panhandle Research and Extension Center.

<sup>5</sup>Yields corrected to 15.5% moisture.

Micro-AZ: TerraMax's Micro-AZ is a stabilized formulation of two beneficial micro-organisms, Azospirillum brasilense and lipoferum, in a nutrient blend that increases shelf life and bacteria survivability. This product, available in both liquid and dry formulations, is intended to stimulate root growth and enhance the germination process in grasses, for increased root mass, stand and yield. The organisms in Micro-AZ are naturally occurring and will not harm the environment. TerraMax can be reached at 651-458-4401, or [www.terramaxag.com](http://www.terramaxag.com).

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<b>Site Information</b>	<b>Akron CO</b>	<b>Dailey CO</b>	<b>North Platte NE</b>	<b>Scottsbluff, NE</b>
Skip row configuration:	Plant 2 skip 2	Plant 2 skip 2	Plant 2 skip 2	Plant 2 skip 2
Full row configuration:	Plant all 4 rows	Plant all 4 rows	Plant all 4 rows	Plant all 4 rows
Date of Planting:	5/19/08	5/19/08	5/13/08	5/12/08
Date of Harvest:	11/18 and 11/19/08	11/10 and 11/13/08	11/5/08	11/3/08
Plot Size:	10'x31'	10'x31'	10'x17'	10'x31'
Experimental Design:	4 replications	4 replications	4 replications	4 replications
Seeding Rate:	15,000 seeds/ac	15,000 seeds/ac	15,000 seeds/ac	15,000 seeds/ac
Previous Crop:	wheat	wheat	wheat	wheat
Soil Type:	Rago silt loam	Haxton sandy loam	Holdrege silt loam	sandy loam
Fertilization:	35 lb N/ac	61 lb N/ac 33 lb P <sub>2</sub> O <sub>5</sub> /ac	80 lb N/ac	92 lb N/ac
Herbicide:	Round-up	Atrazine, Round-up	Lumax	Round-up
Insecticide:	none	none	Lorsban	none

**Two Nebraska Panhandle Dryland Locations**

