

Field Corn Variety Trial Results

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Table 1 shows the results of the 2016 UCCE Delta field corn variety trial, located on Tyler Island. Three replicate blocks of eighteen varieties were planted on April 27th by air planter. The eighteen varieties included 16 varieties submitted by seed companies and two varieties submitted by the grower. All varieties supplied by the seed companies were glyphosate-tolerant varieties. Each plot consisted of four 30-inch beds on an average row length of 1158 feet. Seed was planted approximately two inches deep and six inches apart down the row. The soil is a Rindge mucky silt loam with approximately 20 percent organic matter in the top 15 inches of soil. The Rindge series is a mucky peat soil down to about 60 inches, and approximately 55,600 acres in the Delta are described by the Rindge classification. The previous crop in the field was wheat. Subsurface irrigation by “spud ditch” was employed three times. Nitrogen was applied preplant (125 units/acre as NH₃), and 34 gallons/acre of 8-24-6 with ½% of zinc was knifed in at planting. Weed control was by cultivation and herbicide application (Steadfast, Shark, and No Foam A adjuvant). Zeal miticide was applied. The field was harvested on October 10th.

The table presents mean values for the three replicates. When interpreting the results, keep the following in mind. The mean is equal to the sum of values divided by the number of values, in this case, three replicates. The statistical method used to compare the means, called Tukey’s range test, compares all means against each other. Varieties were considered statistically different if their P value was less than 0.05, or 5 percent. What this means is that when differences between varieties exist, we are 95% certain that the two varieties are actually different; the results are not due to random chance. Differences between varieties are indicated by different letters following the mean. For example, a variety that has only the letter “a” after the mean yield value is different from a variety that is followed by only the letter “b”, but it is **not** different from a variety whose mean value is followed by both letters (“ab”). Similarly, a variety whose mean yield is followed by the letters “ab” is not different from a variety whose mean yield is followed by the letters “bc”. Seven varieties have a letter “a” following their mean yield, which means that those seven varieties all performed similarly in the trial. The numerical values of these seven varieties differ, but based on this research, we cannot attribute those numerical differences to variety differences. Among varieties, there were also differences in stand count, bloom date, fusarium ear rot presence, ear height, grain moisture, and bushel weight.

The CV, or coefficient of variation, is the standard deviation divided by the mean, or a measure of variability in relation to the mean. For some measures, particularly the disease percentage, the variability between the three replicates was very high.

Special thanks go to grower cooperators, Steve and Gary Mello, and participating seed companies.

Table 1. 2016 UCCE Delta field corn variety trial
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Initials	Entry Name	Company Name	Stand (Plants/A)	Days to Bloom ¹	Fusarium ear rot (%) ¹	Head Smut (%) ¹	Common Smut (%) ¹	Plants Lodged (%)	Ear Height (in)	Moisture at Harvest (%) ¹	Bushel Weight (lbs/bu)	Yield ³ (lbs/A) ¹
DKC	62-08RIB	DeKalb	34558 ab	71 abc	3 bcd	1	0	0	58 abcd	14.6 def	60.9 bc	17032 a
ES	7514VT2P	Eureka Seeds	35719 a	70 abcd	3 bcd	0	0	0	50 de	14.9 cde	61.8 abc	16429 ab
ES	7667VT2P	Eureka Seeds	32815 abc	69 bcde	4 abcd	0	0.7	0	50 de	14.9 cde	62.7 a	16331 abc
DKC	63-07	DeKalb/Grower	33832 abc	68 de	4 ab	0	0.3	0	47 e	14.8 cde	61.5 abc	15938 abc
LG	5701VT2P	LG Seeds	34412 abc	71 abc	3 bcd	0.7	0.3	0	53 bcde	15.8 bc	61.6 abc	15861 abc
CP	7087VT2P/RIB	Croplan	32089 bc	68 de	10 a	1	0	0	54 abcde	14.8 cde	61.9 abc	15823 abcd
G	6708VT2P	Golden Acres	34848 ab	70 abcd	3 bcd	0.7	0	0	52 cde	15.8 bc	61.4 abc	15576 abcde
G	7601VT2P	Golden Acres	33686 abc	69 cde	3 bcd	1	0.7	0	62 ab	15.4 bcd	60.5 cd	15512 bcdef
BAG	SX 5543 RR	Baglietto Seeds	34267 abc	68 de	8 ab	1	0	0	46 e	14.9 cde	62.2 ab	15361 bcdef
DKC	63-71RIB ²	DeKalb	33977 abc	68 de	8 abcd	0.3	0.3	0	51 de	14.2 ef	61.9 abc	14895 bcdef
INT	6474DGV2PRORIB	Integra	34267 abc	71 abc	3 abcd	0	0	0	63 a	14.2 ef	61.0 bc	14852 cdef
PI	31N27	Pioneer/Grower	31363 c	72 ab	4 abcd	1.3	0.3	0	60 abc	16.1 b	62.6 a	14229 defg
LG	5622VT2P	LG Seeds	34848 ab	68 de	2 cd	0.7	0	0	52 cde	13.5 fg	62.6 a	14176 efg
INT	6612GSS	Integra	34122 abc	68 de	4 abcd	0	0	0	54 abcde	13.9 ef	59.3 de	14088 efg
MY	2D848	Mycogen	34122 abc	72 ab	0 d	0.3	0	0	56 abcd	18.8 a	59.0 e	13902 fg
TGY	8156GT	TechAg Seeds	32815 abc	72 a	2 bcd	2.3	0	0	54 abcde	16.1 b	59.4 de	12753 gh
CP	6525VT3P/RIB	Croplan	35284 a	68 de	6 abc	1.3	0	0	51 de	12.3 gh	60.6 cd	12723 gh
MY	2A499SXRA	Mycogen	33396 abc	67 e	1 cd	1.3	0.3	1.7	52 cde	11.6 h	61.7 abc	10644 h
Average			33912	70	3.9	0.7	0.2	0.1	54	14.8	61.3	14792
Coefficient of Variation (%)			4	3	76	128	225	756	10	11	1.9	11
Significant variety effect (P value)			0.0012	<0.0001	<0.0001	0.1614	0.1370	N/A	<0.0001	<0.0001	<0.0001	<0.0001

¹ Data were transformed for analysis. Arithmetic means are presented.

² Average of only two replications.

³ Yield adjusted to 15% moisture.