

## Field Corn Variety Trial Results

**By: Michelle Leinfelder-Miles, farm advisor, UCCE San Joaquin County**

Table 1 shows the results of the 2013 Delta field corn variety trial, located on Tyler Island. Two replicates of sixteen varieties were planted on April 16, 2013 by air planter. Each replicate consisted of four 30-inch beds on an average row length of 1324 feet. Seed was planted two inches deep and six inches apart down the row, for an approximate planting density of 35,000 seeds per acre. 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 60 inches, and approximately 55,600 acres in the Delta are described by the Rindge classification. The previous crop in the field was corn, and subsurface irrigation by “spud ditch” was employed three times. Nitrogen was applied preplant (125 units as  $\text{NH}_3$ ), and then 25 gallons per acre of 8-24-6 with ½% of zinc was sidedressed. Weed control was by cultivation and one glyphosate application. The field was harvested on October 4, 2013.

The table presents mean values for the two 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, two 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”). All varieties but one had statistically similar yield, but differences in bloom date, disease presence, ear height, and grain moisture were more pronounced. 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 two replicates was very high.

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**Table 1: 2013 Delta field corn variety trial**  
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Initials	Entry Name/NO.	Company Name	Stand (plants/A)	Days to Bloom <sup>2</sup>	Fusarium Ear Rot <sup>2</sup> (%)	Head Smut <sup>2</sup> (%)	Common Smut (%)	Plants Lodged (%)	Ear Height (in)	Moisture at Harvest <sup>2</sup> (%)	Bushel Weight <sup>2</sup> (lbs/bu)	Yield <sup>1</sup> (lbs/A)
ES	7443RR	Eureka Seeds	34848	72 e	5 abc	0 e	0	0	47 abcd	10.4 abc	61.1	14976 a
DK	G64-82	Dekalb/Grower	33759	72 e	4 abc	2 de	1	0	45 bcd	10.1 abc	61.3	14896 a
DK	G62-08RIB	Dekalb	33106	74 cd	0 c	4 cd	0	0	56 a	10.9 abc	66.5	13705 a
BAG	5409VTP	Baglietto Seeds	34848	74 bc	0 c	7 bcd	0	0	42 cd	10.8 abc	63.0	13654 a
INT	9678VT3PRO	Integra	32888	73 de	1 bc	8 bcd	0	0	48 abcd	11.3 abc	65.4	13370 a
NT	3F-515 <sup>TM</sup>	NuTech Seeds	33977	76 a	7 ab	12 bc	0	0	54 ab	10.3 abc	61.8	13343 a
DK	G64-69	Dekalb	35502	74 bc	4 abc	5 bcd	0	0	50 abcd	10.3 abc	63.9	13271 a
MY	2Y767	Mycogen	32017	74 bc	1 bc	4 cd	1	0	54 ab	11.3 abc	64.2	13227 a
INT	9613VT3PRO	Integra	34848	72 e	0 c	5 bcd	0	0	41 d	9.2 c	62.8	13209 a
CP	6640VT3/P	Croplan	35066	72 e	0 c	9 bc	0	0	51 abcd	10.8 abc	65.7	12650 ab
CP	6960VT3/P	Croplan	33759	72 e	3 abc	5 bcd	0	0	46 abcd	9.4 c	60.1	12511 ab
MY	2Y816	Mycogen	33106	75 ab	1 bc	2 de	0	0	56 a	12.3 a	63.3	12069 ab
NT	5H-716 <sup>TM</sup>	NuTech Seeds	32453	76 a	5 abc	16 ab	0	0	52 abc	10.4 abc	60.3	11941 ab
ES	7553RR	Eureka Seeds	33106	72 e	10 a	5 bcd	0	0	45 bcd	10.0 bc	61.9	11743 ab
NK	N79T-3111	Syngenta	33324	74 bc	0 c	7 bcd	0	0	54 ab	11.9 ab	65.8	11681 ab
NK	N74R-3000GT	Syngenta	34848	74 bc	1 abc	47 a	1	0	52 abc	11.5 abc	64.0	9563 b
<b>Average</b>			<b>33841</b>	<b>74</b>	<b>3</b>	<b>9</b>	<b>0</b>	<b>0</b>	<b>50</b>	<b>10.7</b>	<b>63.2</b>	<b>12863</b>
<b>Coefficient of Variation (%)</b>			<b>4.3</b>	<b>1.9</b>	<b>137.0</b>	<b>150.0</b>	<b>0.0</b>	<b>0.0</b>	<b>10.0</b>	<b>9.0</b>	<b>3.7</b>	<b>11.5</b>
<b>Significant variety effect (P value)</b>			<b>NS</b>	<b>&lt;0.0001</b>	<b>0.0001</b>	<b>&lt;0.0001</b>	<b>NS</b>	<b>NS</b>	<b>0.0001</b>	<b>0.0051</b>	<b>NS</b>	<b>0.0019</b>

<sup>1</sup> Yield adjusted to 15.5% moisture.

<sup>2</sup> Data were transformed for analysis. Arithmetic means are presented.