



Field Corn Variety Trial Results

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Table 1 shows the results of the 2014 UCCE Delta field corn variety trial, located on Tyler Island. Three replicate blocks of nineteen varieties were planted on April 28th by air planter. The nineteen varieties included 16 varieties submitted by seed companies and three varieties submitted by the grower. Each replicate consisted of four 30-inch beds on an average row length of 1158 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 (110 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 one glyphosate application, and no miticide was applied. The field was harvested on September 30th.

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”. Eight varieties have a letter “a” following their mean yield, which means that those eight varieties all performed similarly in the trial. The numerical values of these eight 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, head smut 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.

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