



CORN EMERGENCE EVALUATION

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There is much emphasis placed on the importance of stand uniformity and emergence in producing high yielding corn. Stand uniformity refers to spacing while uniformity of emergence refers to how even emergence is within the field. In 2015, in work supported by check-off funds provided by the Virginia Corn Board, we flagged off two forty foot sections of row in two corn fields that were planted on April 11th. At this location, the hybrid was DEKALB 52-61 planted with a John Deere 7000 Max-Emerge planter at a planter setting population of 25,800 plants per acre in 36 inch rows. Emergence was checked and flagged for three straight days at the same time each day for three days as soon as corn began spiking the ground. Ears from one row were pulled and weighed when the corn was at approximately 25% moisture. Based on the number of ears pulled in that forty foot section of row, the plant population was calculated to be 25,400 plants per acre. Using this information and a harvest moisture of 25% and ear corn weights of 70 pounds per bushel, yields were also estimated. Below are the results.

Day/Date of Emergence	# of Plants Emerged	Average Wt. of Ears at Harvest (Oz.)	% of Ears	Yield (bus./acre @ 25,400 ears per acre at 15.5%)*
Day 1 April 21st	59	10.79	84.3	217
Day 2 April 22nd	6	7.65	8.6	154
Day 3 April 23rd	3	8.20	4.3	165
After Day 3 Unknown	2	3.05	2.9	61
	70 Ears total	10.19 Weighted Average	100 Total	205 Weighted Ave. Yield

*Calculated at 25% moisture and ear corn weight of 70 lbs./bu.

In this example, the delayed emergence resulted in total ear weights that were over 5.5% less compared to the average weight of the ears that emerged on day one. Uniform emergence is critical for obtaining maximum yields and farmers should pay close attention to planter speed, strive for uniform planting depth, make sure the planting slot is closed, replace worn planter parts, and be sure to plant hybrids with good stress emergence, especially when planting early into cold and wet soils.

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Figure 1. Fifty-nine plants emerged on day 1, and this is a representative sample of the ears harvested from those plants. Average weight of all the ears was 10.79 ounces.



Figure 2. From left to right, ears from plants that emerged on day 2 (six ears), ears from plants that emerged on day 3 (3 ears), and ears from plants that emerged after 3 days (2 ears.) Average weights of the ears were 7.65 ounces 8.2 ounces, and 3.05 ounces, respectively.