2020 Corn Planting Depth Study

Corn was planted on April 21st at 34,000 plants/acre at six different planting depths to highlight the importance of proper seeding depth, detrimental effects of planting too shallow or too deep, and consequently the late season plant health differences based on planting depth. We used a 16R31 ExactEmerge planter and split the planter for each planting depth, so we set half the planter for depth A and the other half for depth B to maximize field space. Therefore, there were eight rows per depth.

We noted emergence differences by population counts every 12 hours for the first five days then daily differences for days six-nine. We had several late emergers that emerged after we had stopped daily notes, so we took a final population count on 5/28 (three weeks after initial emergence) and noted the number of late emergers. All population counts were taken from the center two rows of each treatment and the average was recorded.

Corn Planting Depth	Average Population at 24hr emergence (5/5 AM -5/6 AM)	Average Population at 48hr emergence (5/5 AM – 5/7 AM)	Average Population at 22 days (5/13)	Late Emergers 3+ weeks (5/28)	Final Population at 37 days (5/28)
1.0”	28	30	31	0	31
1.5”	16	18.5	27.5	3	30.5
2.0”	4	13	26	4.5	30.5
2.5”	0	6	25	3.5	28.5
3.0”	0	2.5	23	3	26
3.5”	0	4	18	9.5	28

Table 1. Corn planting depth population counts. Multiply population listed x 1000.

The 1.0” corn was the first and most uniform to emerge due to optimum moisture and temperatures. The average final population decreased as planting depth increased. When the corn was sidedressed, one coulter ran right down a row in the 2.5” treatment and could have caused yield loss.

Corn Planting Depth	Moisture	Dry Yield (bu/ac)
1.0”	19.2%	195.5
1.5”	19.0%	202.5
2.0”	19.2%	190.5
2.5”	19.5%	196.5
3.0”	19.8%	194.1
3.5”	20.0%	187.2

Table 2. Corn planting depth yield data.

**This study was for demonstrative purposes only and was non-replicated.