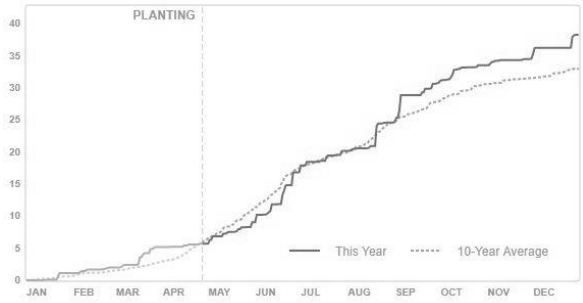
Impact of Planting Depth on Corn Yield

Study ID: 0819053201801
County: Dodge
Soil Type: Moody silty clay loam terrace, 0-2% slopes
Planting Date: 4/27/2018
Harvest Date: 10/3/18
Population: 28,500
Row Spacing (in): 30
Hybrid: Hoegemeyer® 8326AM
Reps: 8
Previous Crop: Soybean
Tillage: No-Till
Herbicides: ***Pre:*** 0.5 pint/ac 2-4-D and 1.8 qt/ac Keystone® LA at planting ***Post:*** 3 oz/ac Callisto® and 22 oz/ac Roundup Ultra®Max on 5/25/18

Seed Treatment: None
Fertilizer: 145 lb/ac N from NH3 applied in fall of 2017; 155 lb/ac 10-51-1 broadcast 12/8/17; 5 gal/ac 10-34-0 in-furrow at planting
Irrigation: None
Rainfall (in):



Introduction: The purpose of this study was to evaluate the impact of planting depth on corn yield. Two planting depths were evaluated, 1.5" and 2.25". Yield, moisture, and net return were evaluated. Additionally, soil temperature was recorded with EasyLog USB loggers placed at the seeding depth. Temperature loggers were placed in both the 1.5" and 2.25" planting depth treatments and in two field locations – a higher field elevation and lower field elevation (Figure 1). The percent emergence for the 1.5" and 2.25" treatments in the high and low elevation area was also observed by counting the number of seedlings emerged in a 100' row length and comparing to the number of seeds dropped in a 100' row length (Figure 2).

Results:

	Moisture (%)	Yield† (bu/ac)	Marginal Net Return‡ ($/ac)
1.5" Seed Depth	15.8 B*	236 A	763.42 A
2.25" Seed Depth	15.9 A	239 A	772.83 A
P-Value	0.052	0.244	0.244

*Values with the same letter are not significantly different at a 90% confidence level.
†Yield values are from cleaned yield monitor data. Bushels per acre corrected to 15.5% moisture.
‡Marginal net return based on $3.23/bu corn and no cost difference between the treatments.

Summary: There was no difference in yield or net return between the two treatments. Temperature loggers were not replicated in the field; therefore, statistics cannot be calculated for these data. The recorded data does show trends in soil temperature. From May 4 to May 11, when most plants were emerging, the daytime temperatures recorded were warmer in the low areas; additionally, during this time period, the 1.5" depth had higher daytime temperatures than the 2.25" depth regardless of field location (high or low elevation).

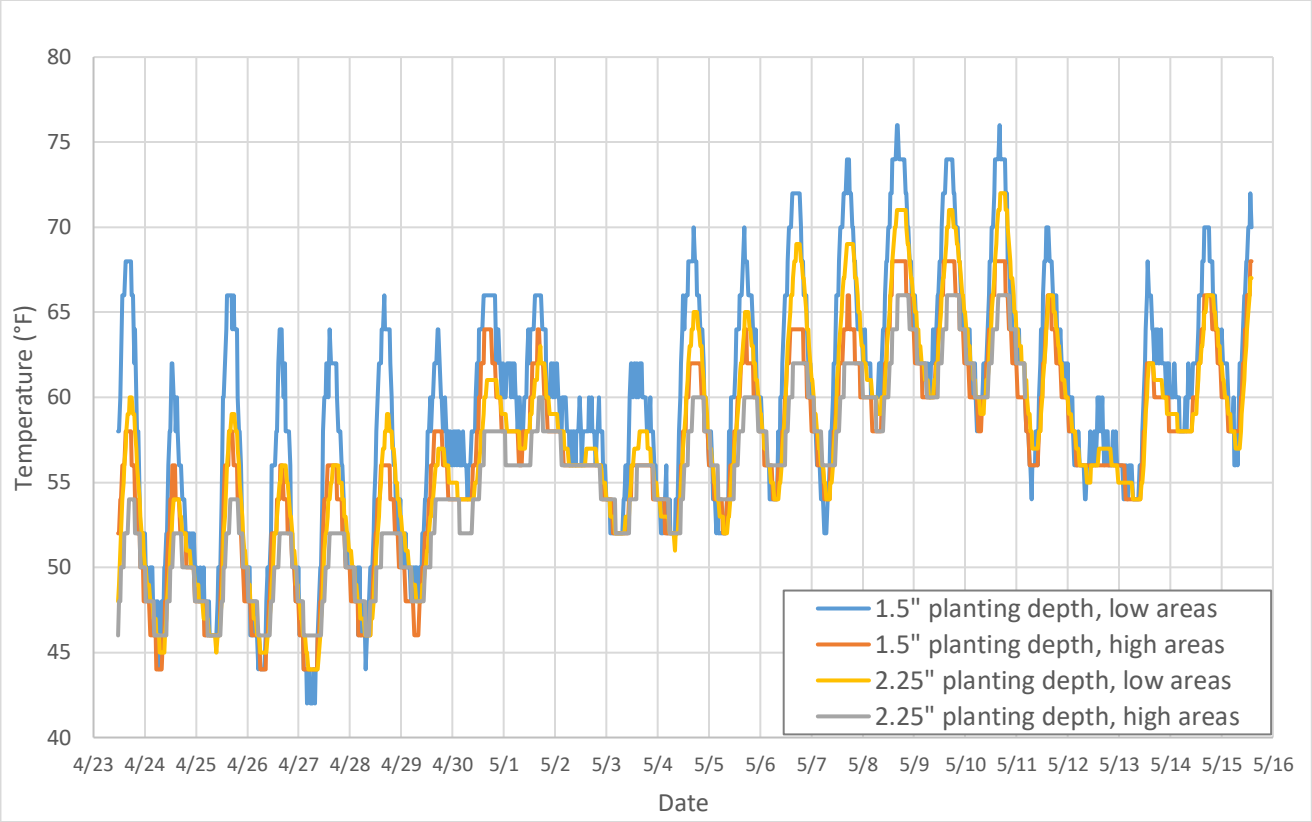


Figure 1. Soil temperature recorded at planting depths of 1.5” and 2.25” for each treatment and in high and low elevation areas of the field from April 23 to May 15.

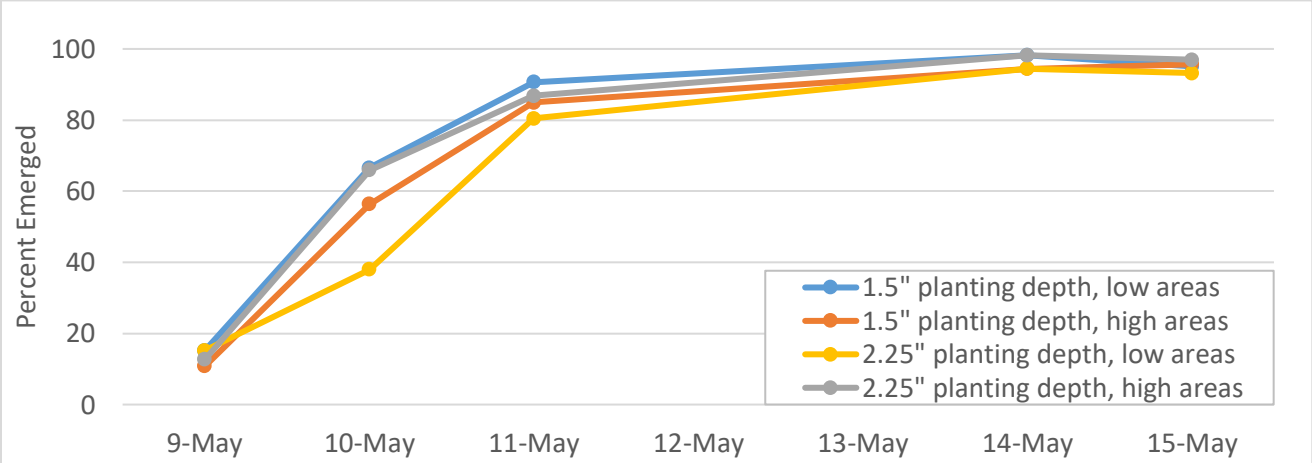


Figure 2. Percent of plants emerged for 1.5” planting depth and 2.25” planting depth in high and low areas of the field.

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