Project Title: Corn planting date experiment

Objective: To evaluate the effect of planting date and cultivar on silage production and kernel yield and quality

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Summary:

Two corn varieties, P8034R (80 days) and H2512 (75 days) were sown on three planting dates (April 27, May 6, and May 18). Table 1 shows detailed agronomic and management information. Silage and kernel yields were recorded.

Overall, kernel yield loss was observed with later planting dates (Table 2). Although caution should be noted when planting early. There is a chance of lowered soil temperature in the last week of April (Figure 1).

The production challenge observed was predatory birds. The negative grain yield impact due to birds is related to planting date and corn maturity (Figure 2). The later-planted and the 80-day corn is more prone to grain yield loss due to predatory birds than the earlier-planted and the 75-day corn (Table 2). Yield reduction due to predatory birds on 80-day corn is greater than the 75-day corn (Table 3), although the actual yield was significantly higher for 80-day corn compared with 75-day corn.

The takeaways, from two-year (2019-2020) of data, are: 1) yield reduction with delayed planting (3rd week of May, see also economic loss in Figure 3), 2) higher yield potential with 80-day corn than 75-day, but the 80-day is prone to wildlife feeding and also delayed harvest, 3) planting date had no negative impact if corn is planted only for silage, and 4) the 80-day corn performed better as silage.

Table 1. Management information

Seeding date:	4/27, 5/6, 5/18	Field Location:	X2
Julian date:	118/127/139	Harvest date:	Silage: 9/9 Grain: 1/19/21
Seeding rate:	28,000 plants/A	Julian date:	253/19
Previous crop:	Peas	Soil type:	Silt loam
Herbicide:	5/4: Roundup 5/28: Buccaneer 5 6/25: Buccaneer 5	Tillage:	Conventional
Insecticide:	None	Soil residual nutrient (NO_3-, P, K lb/A):	185-24-316
Fungicide:	None	Nutrient fertilizer applied (N, P_2O_5, K_20, S lb/A):	125-40-80-10

Table 2. Influence of planting date to grain yield. Same letter assignment denotes no statistical difference (*P* = 0.05).

Planted	----------(bu/A@15% moisture)----------	
	Estimated with the absence of predatory birds	Actual grain yield with the predatory birds
April 27	155a	132a (-15%)
May 06	149a	111ab (-26%)
May 18	148a	91b (-39%)

Table 3. Influence of relative maturity to grain yield and silage. Same letter assignment denotes no statistical difference (*P* = 0.05).

Relative Maturity	----------(bu/A@15% moisture)----------		Tons/A@ 60% moisture
	Absence of predatory birds	Actual grain yield with the predatory birds	Silage
80 days (P8034R)	172a	124a (-28%)	28.6 a
75 days (H2512)	130b	99b (-24%)	25.8 b

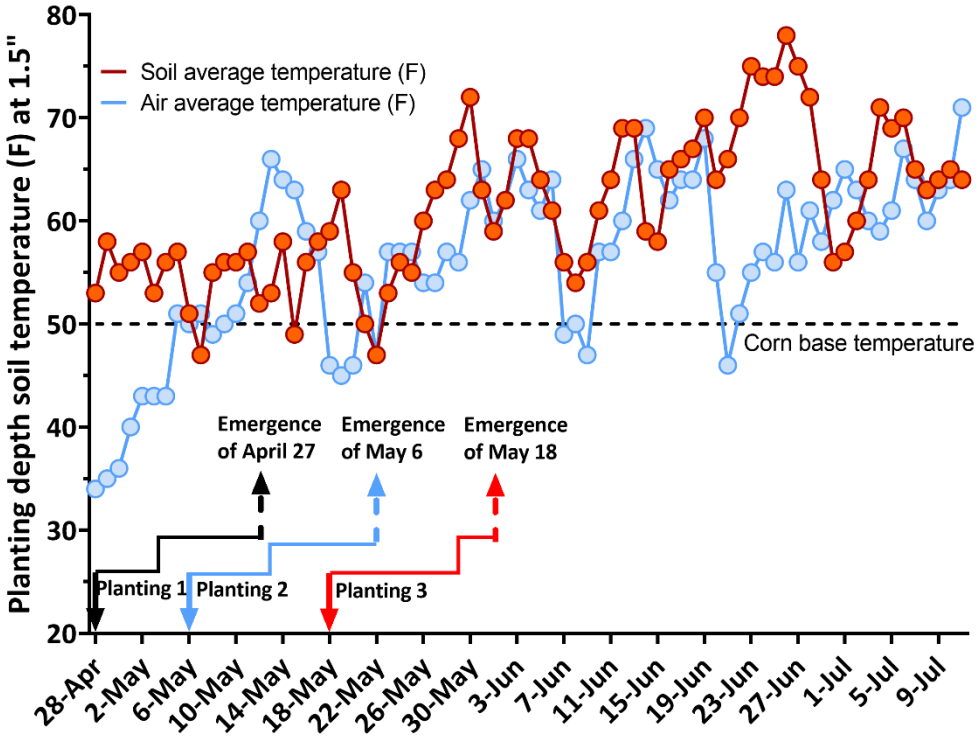

Figure 1. Trend of the soil and air temperatures with the corn planting dates and their corresponding day of emergence.

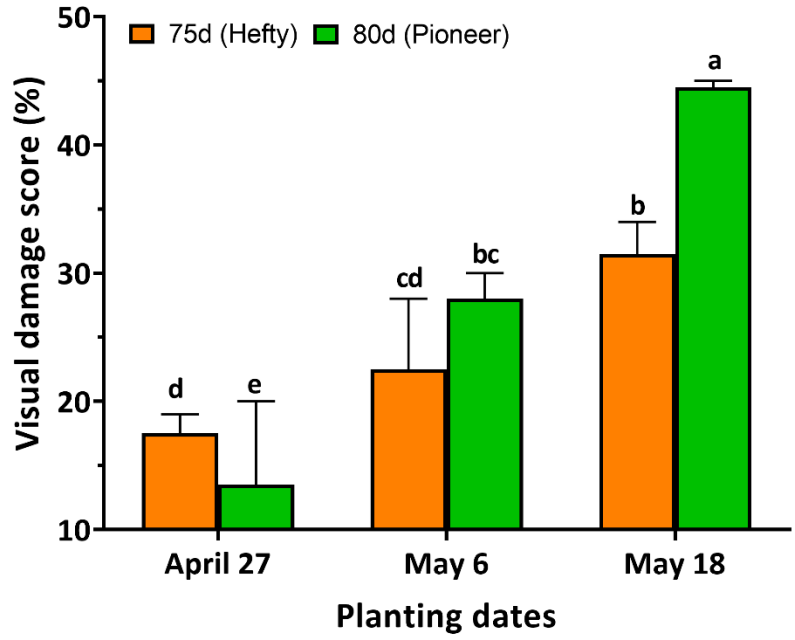

Figure 2. Percent damage to predatory birds with planting dates and relative maturity of corn. Same letter assignment denotes no statistical difference (*P* = 0.05).

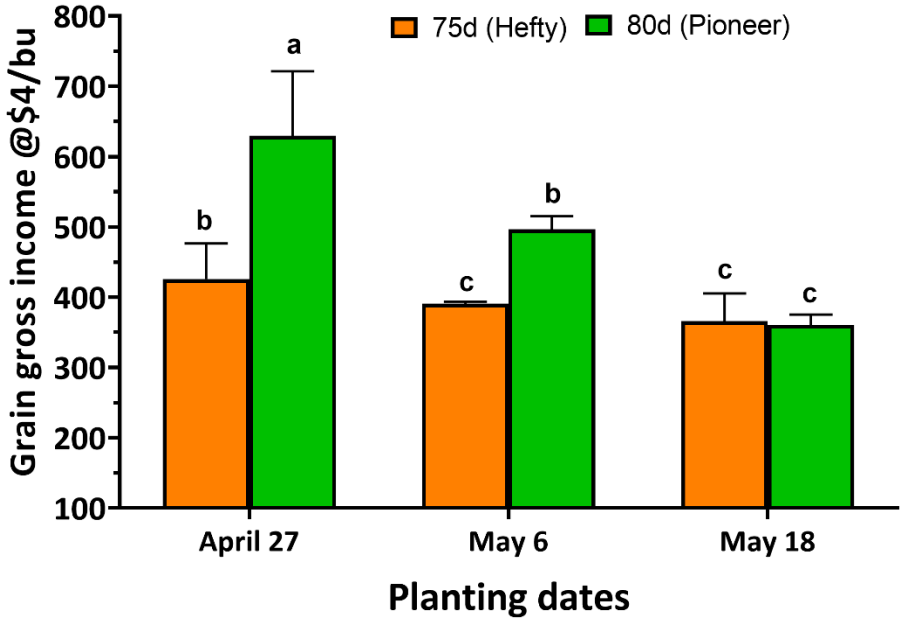

Figure 3. Grain gross adjusted income with planting dates and relative maturity of corn. Same letter assignment denotes no statistical difference (*P* = 0.05).