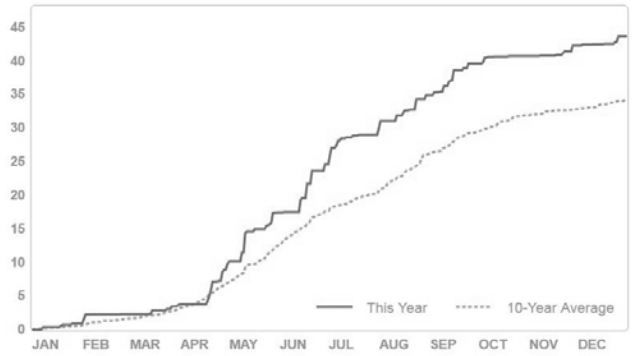
Multi-Hybrid Planting for Corn Hybrid Placement

Study ID: 560155201601
County: Saunders
Soil Type: Nodaway silt loam; Pohocco silty clay loam; Steinauer clay loam; Yutan; eroded-Aksarben silty clay loams
Planting Date: 4/26/16
Harvest Date: 10/11/16-10/13/16
Population: 28,000
Row Spacing (in): 30
Reps: 6
Previous Crop: Soybeans

Irrigation: None
Rainfall (in):



Introduction: Using a multi-hybrid planter, hybrids can ideally be placed to optimize production in stable management zones. This study compares two contrasting hybrids, one with a drought tolerant trait and one geared towards high production, placed in defined management zones *(Figure 1)*.

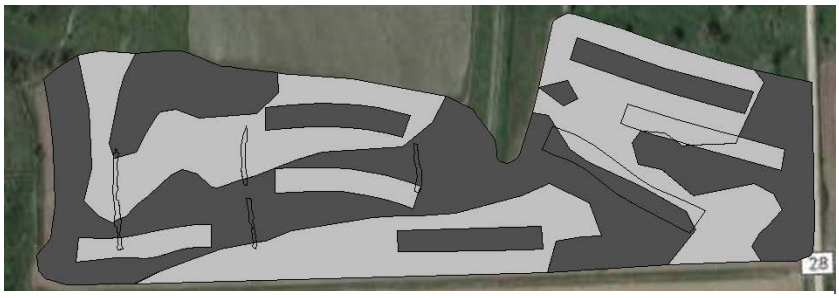


Figure 1. Management zones for defensive hybrid (dark grey), and offensive hybrid (light grey) with check strips of the opposing hybrid.

- The drought tolerant/**defensive hybrid**, Pioneer 1271, was placed in portions of the field that typically had lower water retention (dark grey).
- The **offensive hybrid**, Pioneer 1197, was placed in portions of the field that normally maintained adequate moisture across the growing season (light grey).

Management Zone Creation: Four data layers were used: 3 years of yield data, and deep electrical conductivity. These layers were clustered using Management Zone Analyst Version 1.0 (USDA ARS, University of Missouri, Columbia, MO).

Results: Within each zone, success of the offensive and defensive hybrid were evaluated by comparing the yield of the check strips to the yield in an adjacent strip of the hybrid assigned to that zone. Data were analyzed using the GLIMMIX procedure in SAS 9.4 (SAS Institute Inc., Cary, NC).

Treatment	P1271 (defensive hybrid) Yield (bu/acre)†	P1197 (offensive hybrid) Yield (bu/acre)†	P-Value
Defensive Zone	211 A*	209 A	0.843
Offensive Zone	212 A	212 A	0.919

†Bushels per acre corrected to 15.5% moisture.
*Values with the same letter are not significantly different at a 95% confidence interval. Letters apply within zone.

Summary: At this location, there was no difference in yield for the two hybrids in either zone. Lack of yield difference between hybrids and zones indicates zone structure or hybrid selection may need to be adjusted. Further years of data should be collected for verification and to guide restructuring of zones.

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