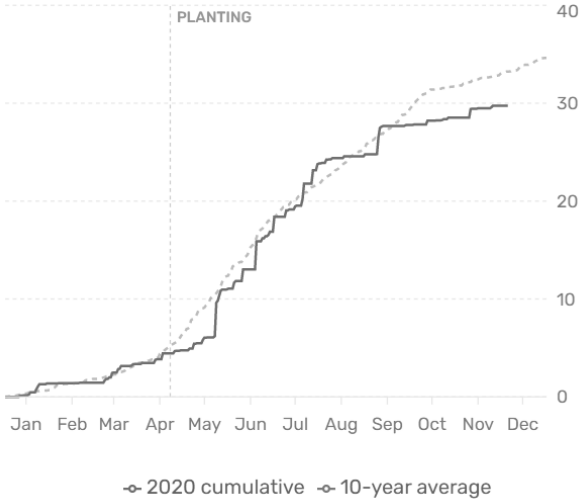
Non-irrigated Corn Planted into Cereal Rye Cover Crop

Study ID: 0417109202001
County: Lancaster
Soil Type: Aksarben silty clay loam 6-11% slopes; Judson silt loam 2-6% slopes; Wymore silty clay loam 3-6% slopes, eroded
Planting Date: 4/22/20
Harvest Date: 10/19/20
Population: 26,500
Row Spacing (in): 30
Hybrid: Golden Harvest®11B63-3120
Reps: 6
Previous Crop: Soybean
Tillage: No-Till
Herbicides: ***Pre:*** Verdict®, Roundup PowerMAX®, and 2,4-D LV
Seed Treatment: None
Foliar Insecticides: None
Foliar Fungicides: None
Fertilizer: 98 lb/ac N as 32% UAN applied on 4/8/20; 32 lb /ac N as 46% Urea, 6.23 lb/ac N and 7 lb/ac S as 21-0-0-24S applied on 6/11/20

Irrigation: None
Rainfall (in):



Introduction: The purpose of this study was to evaluate the impact of a rye cover crop on subsequent corn crop production. There were two treatments, a rye cover crop and a no cover crop control. The cereal rye was variety not stated (VNS) and was seeded at a rate of 1 bu/ac on October 28, 2019. The cover crop was terminated with 32 oz/ac Roundup® PowerMAX on April 8, 2020. The rye was approximately 6" tall at the time of termination.

Results:

	Harvest Stand Count (plants/ac)	Test Weight (lb/bu)	Moisture (%)	Yield (bu/ac)†	Marginal Net Return‡ ($/ac)
Check	27,462 A*	57 A	12.1 A	178 A	625.03 A
Cover Crop - Rye	27,365 A	57 A	11.9 B	177 A	592.70 A
P-Value	0.880	0.770	0.093	0.794	0.156

*Values with the same letter are not significantly different at a 90% confidence level.
†Bushels per acre corrected to 15.5% moisture.
‡Marginal net return based on $3.51/bu corn $14/ac rye seed cost, and $13/ac rye drilling cost.

Summary: There were no differences in corn stand count, test weight, yield, or net return between the rye cover crop treatment and the no cover crop control. Corn moisture was slightly lower following the rye cover crop.

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