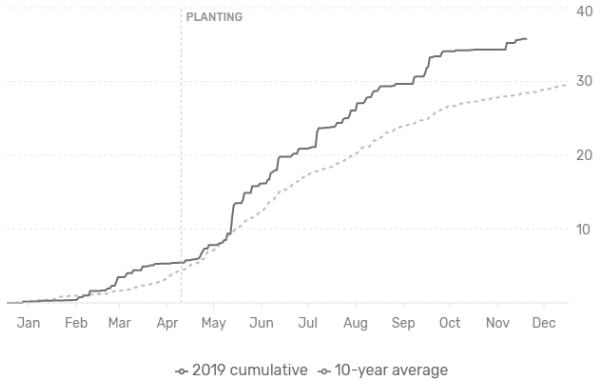
Impact of Early Interseeded Cover Crops on Irrigated Corn

Study ID: 0918185201902
County: York
Soil Type: Hastings silt loam, 0-1% slope; Hastings silt loam, 1-3% slope
Planting Date: 4/24/19
Harvest Date: 10/16/19
Seeding Rate: 34,000
Row Spacing (in): 30
Variety: DEKALB® DKC60-88 VT2
Reps: 6
Previous Crop: Soybean
Tillage: Ridge-Till
Herbicides: ***Pre:*** Staunch® II on 4/25/2019 ***Post:*** 3 oz/ac Callisto® and 32 oz/ac Roundup® on 6/10/19
Seed Treatment: Acceleron®

Fertilizer: 28 gal/ac 32% UAN on 4/25/19 and 18 gal/ac 32% UAN on 6/17/19
Irrigation: Pivot
Rainfall (in):



Introduction: This study evaluated the impact of interseeded cover crops on corn yield. The interseeded cover crop treatment was compared to a no cover crop check. The field received 0.40" of rain the night before interseeding. On June 14 the field was cultivated then broadcast interseeded with a high-clearance applicator. The cover crop mixture was 10 lb/ac red clover and 5 lb/ac buckwheat. Corn was at V6 growth stage. A time-lapse camera was installed to monitor cover crop progress. By June 24, seeds had germinated and small seedlings were present; however, seedlings did not survive and by a few days later, no cover crops remained in the field (Figure 1). A possible explanation is that the Callisto® reactivated with rain and impacted the cover crop seedlings.

Figure 1. Broadcast interseeding cover crops with high-clearance applicator on June 14 (left), germinated cover crops on June 24 (middle), and no cover crops remaining in rows on July 3 (right).

Results:

	Harvest Stand Count (plants/ac)	Stalk Rot (%)	Moisture (%)	Yield (bu/ac)†	Marginal Net Return‡ ($/ac)
Check	32,500 A*	2.08 A	12.5 A	258 A	986.23 A
Cover Crop - Interseeding	30,667 A	1.67 A	12.6 A	256 A	970.75 A
P-Value	0.208	0.849	0.172	0.613	0.211

*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 adjusted to 15.5% moisture.
‡Marginal net return based on $3.83/bu corn, $6.67/ac for cover crop seed, and $3/ac for interseeding.

Summary: There was no impact of interseeding cover crop on corn stand count, stalk rot, grain moisture, yield, or net return.

Sponsored by: **In Partnership with:**