

Interseeding Cover Crops into Growing Corn

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Objective

To determine the response of corn yield to interseeding cover crops into growing corn

Background

Crop Year:	2017	Previous Crop:	Soybean
Location:	Defiance, Ohio	Tillage:	Fall strip till
County:	Defiance County	Planting Date:	April 25, 2017
Soil Type:	Kibbie Loam, Del Rey Silt Loam	Seeding Rate:	33,000 seeds/acre
Drainage:	Subsurface Tile, 25 ft spacing	Harvest Date:	October 27, 2017

Methods

A trial was established to evaluate the corn yield response to interseeding cover crops into growing corn compared to corn yield without interseeding cover crops (control). Three treatments were established using a randomized complete block design with five replications. Plots were 20 feet wide with field length of 800 to 1,000 feet. Corn was planted on 30 inch row spacing and all plots received the same nutrient and weed control practices. Two species of cover crops were selected and interseeded separately: annual ryegrass and cereal rye. Each cover crop was interseeded using a 7 row tractor-mounted toolbar with disk opener with planting units on 30 inch row spacing. Corn received pre-emergent herbicides (April 28), sidedress nitrogen (June 11), and post-emergent herbicide (June 17) prior to interseeding each cover crop on June 19, 2017 at corn growth stage V6. Annual rye grass was interseeded at a seeding rate of 13 pounds per acre and cereal rye was interseeded at a seeding rate of 30 pounds per acre. Plots were harvested with a commercial combine with the yield record taken from the entire 20 foot width and length of each plot. Yield was determined by a calibrated yield monitor with yield adjusted to 15.5% moisture. Data were analyzed using the ANOVA procedure and means separated using LSD at $\alpha=0.05$.

Results

Treatment	Yield (bu/acre)
Annual Ryegrass	186.5 A
Cereal Rye	177.2 A
No Cover Crop (Control)	185.0 A
	LSD (0.10)
	9.97
	C.V. = 4.63



Summary

There was no significant difference in corn yield between the cover crop interseeding treatments compared to the control. The cover crops were considered well established at the time of corn harvest based on general observation of 4 to 6 inch cover crop growth for both annual ryegrass and cereal rye across all plots. Additional research years will be needed to draw further conclusions and observations. The 2017 trial provides a lot of experience about interseeding equipment and timing to establish a cover crop in corn prior to a fall aerial seeding or a post corn harvest direct seeding method.

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