

The Effect of Summer Seeded Cover Crops on Corn

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Objective

To determine corn yield response to cover crops.

Background

Crop Year:	2015	Tillage:	No-till
Location:	OARDC NW Research Station	Planting Date:	May 8, 2015
County/Town:	Custar, OH , Wood County	Nitrogen:	185 lb/ac 28%UAN
Soil Type:	Hoytville clay loam	Seeding Rate:	32,000
Drainage:	Systematic subsoil	Harvest Date:	October 16, 2015
Previous Crop:	Wheat		

Methods

The treatments were replicated four times in a randomized complete block design. Plot size- 10 x 80 feet each entry. Harvest data was collected from the center 2 rows. All treatments received the same tillage, fertility, and seeding rate. On April 24, 2014 select plots were overseeded with red clover onto existing wheat. After wheat harvest (August 13, 2014), select plots were no-till drilled with cover crop seed. A white splitter planter seeded radish in one box and winter pea in the next box 15 inches apart. On August 13, strip tillage was done on treatment # 2. The following spring, all treatments were no-till seeded to Pioneer 0496AMX corn. Herbicides applied on April 17, 2015 were Makaze, Clarity, and Choice, also herbicides applied on May 14, 2015 were Corvus, Atrazine, 2,4-D, and roundup. Sidedress nitrogen was applied at V6 corn stage on June 23.

Treatments

Treatment	Cover Crop	Type of seeding	Date of seeding
1	None		
2	None, strip till		
3	Soybean	drill	8-13-15
4	Oilseed Radish, Winter Pea	Planted, 15 inch rows	8-13-15
5	3 way, Annual Ryegrass, crimson clover, oilseed radish	drill	8-13-15
6	Red Clover	Overseed	4-24-14
7	Crimson Clover	Drill	8-13-15
8	Multi-species 8 way mix	drill	8-13-15
9	Winter Pea	Drill	8-13-15

Results

Corn Grain Yield Response Following a Cover Crop

Treatment	Yield bu/ac
6	163.4 A
4	161.8 A
8	151.3 AB
2	148.2 AB
1	147.2 AB
9	145.8 AB
5	137.6 BC
7	134.6 BC
3	120.6 C

LSD (0.05) 20.5

Summary

There were not any of the cover crop treatments which had significantly more yield than the no cover crop treatment. One treatment, soybean cover crop, had significantly lower yields than the no cover crop treatment.

Yields may have been reduced by excessive rainfall during June and July.

Acknowledgement

The author expresses appreciation to the staff at the Ohio Ag Research & Development Center, Northwest Agricultural Research Station for assistance with this research, Matt Davis manager.

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