

Wheat-Cover Crop

Project duration: May 2019 – August 2019
Objectives: To demonstrate the use of cover cropping strategies
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Background

Cover cropping is of growing interest to many Manitoba farmers. Cover crops can be planted alone or with a cash crop, and can perform a number of significant functions for the soil, including controlling soil erosion after harvest of the cash crop, sequestering and increasing soil nutrients, and improving water infiltration. Seeding a cover crop with a cash crop can reduce fieldwork in the following year, allowing the cover crop to be used as a source of fertility (i.e. green manure), forage crop or cash crop.

Materials & Methods

Experimental Design: Random Complete Block Design
Entries: 11 (Table 1)

Table 1: Treatments

Wheat only	Wheat and Persian clover
Wheat and subterranean clover	Wheat and alfalfa
Wheat and red clover	Wheat and Italian ryegrass
Wheat and white clover	Wheat and alsike clover
Wheat and yellow sweetclover	

All treatments seeded with lb/ac actual P

Agronomic info

Previous year's crop: Oat
Soil Type: Erickson Loam Clay
Landscape: Rolling with trees to the east
Seedbed preparation: Heavy harrowed
Seeding: May 22
Harvest: See "Discussion" below

Data collected	Date Collected
Yield:	Sept 20
Moisture:	Sept 20

Table 2: Spring 2019 Soil Test

	Available
N	143 lb/ac
P	20 ppm
K	207 ppm

Added Fertility

10lbs/ac actual P and 2.11lbs/ac actual N

Discussion

Poor emergence resulted in high weed pressure in the trial. PCDF decided to continue the trial for observational purposes only. The wheat was harvested by a small plot combine, although due to poor establishment, the wheat yield was not calculated. Observational notes for the treatments are listed here:

Treatment	Observational notes for cover crop
Wheat only	High weed pressure
Wheat and subterranean clover	Fair growth; compact, low growth.
Wheat and red clover	Minimal growth.
Wheat and white clover	Minimal growth.
Wheat and yellow sweetclover	Minimal growth.
Wheat and Persian clover	Good growth; plants reaching up to flag leaf.
Wheat and alfalfa	Fair establishment, but impeded by weeds
Wheat and Italian ryegrass	Good establishment, but negative impact on wheat establishment.
Wheat and alsike clover	Fair growth.