

Tamarack Farms Quinoa Cover Crop

Project duration May 2018 – August 2019
Objectives To demonstrate the use of cover cropping strategies
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Results

Due to extreme insect pressure, the quinoa crop did not yield any seed. However, the intercropped cover crops established successfully and will be evaluated for overwinter survival, biomass and seed yield in Year 2

Project findings

Emergence and crop establishment for both the quinoa and the pea crop were successful. Unfortunately, the quinoa sustained extreme insect (stem borer and goosefoot groundling moth) damage, resulting in poor crop development and minimal seed yield. Despite the virtual failure of the quinoa crop, the accompanying cover crops performed well, demonstrating the potential for intercropping to reduce risk to the producer within the cropping year.

Background/References/Additional Resources

Cover cropping as a part soil management is of growing interest to many Manitoba farmers. Cover crops perform a number of significant functions for the soil, including but not limited to: controlling soil erosion after harvest of the cash crop; increasing soil nutrients; and, improving water infiltration.

Materials & Methods

Experimental Design Random Complete Block Design
Entries 11
Seeding June 13
Harvest No quinoa harvest; cover crop biomass harvest planned for 2019

Table 1: Understory Crops

Persian Clover	Subterranean Clover	Italian Ryegrass	Alfalfa
White Clover	Alsike Clover	Fall Rye	Quinoa only
Red Clover	Yellow Sweet Clover	Cicer Milk Vetch	

Data collected Vigor
Date Collected June 25

Agronomic info

Previous 2 years crop Oat Barley Silage
Soil Type Erickson Loam Clay
Landscape Rolling with trees to the east
Seedbed preparation No-till due to moisture concerns; direct-seeded into stubble

Table 2: Spring 2018 Soil Test

	Available
N	54 lb/ac
P	13 ppm
K	228 ppm
S	118 lb/ac

Added Fertility

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