

FACT SHEET

Conservation Innovation Grant Project

at Hillacre Farms, Corinna, ME



Fall-applied treatments

Comparison of Conventional Fall Tillage System with Cover Crop/Fall Herbicide/Spring Tillage System on Potato Yield and Soil Health in Maine

Background: Traditionally, fields in Maine are plowed in fall ahead of planting potatoes due to the grower perception that the ground will warm and dry more quickly in spring. This project sought to compare fall versus spring tillage on pre-plant soil conditions, potato yield, and soil health.



Soil monitor deployed (April 1st)

Findings:

- Soil was slightly wetter and cooler when fall sprayed/spring tilled
- Planting was not delayed significantly when tillage was postponed until spring
- Increased soil moisture promoted earlier canopy closure and increased tuber set
- Yield was not negatively affected by delaying tillage until spring

Benefits:

- Saves a tillage pass
- Soil surface is left intact fall through spring, reducing risk for erosion
- Less erosion preserves valuable agricultural topsoil and water quality
- Long-term strategy for improving soil health and structure

Time Period	Volumetric Water Content (%)			Temperature (°F)			
	Fall Plow	Fall Spray/ Spring Plow	Difference	Fall Plow	Fall Spray/ Spring Plow	Difference	
2018	Pre-Plant	7.7	8.9	1.1	48.3	47.7	-0.6
	Plant - Hill	7.8	10.9	3.0	65.7	65.6	-0.1
	Hill - Harvest	3.7	4.1	0.4	62.3	61.8	-0.5
	SEASON AVG			1.5	-0.4		
2020	Pre-Plant	15.4	16.3	0.9	41.4	41.2	-0.2
	Plant - Hill	2.6	4.3	1.6	58.0	57.6	-0.4
	Hill - Harvest	5.0	3.9	-1.1	72.3	69.8	-2.5
	SEASON AVG			0.5	-1.0		

Year	Treatment	Tuber Count		Total Yield (cwt/acre)	
2018	Fall Plow	N/A		285	4.2%
	Fall Spray/Spring Plow			297	
2020	Fall Plow	157	15.3%	445	1.3%
	Fall Spray/Spring Plow	181		451	

In Cooperation With:

HILLACRE FARMS
WINSLOW AGRICULTURE LLC
UMAINE COOPERATIVE EXTENSION
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