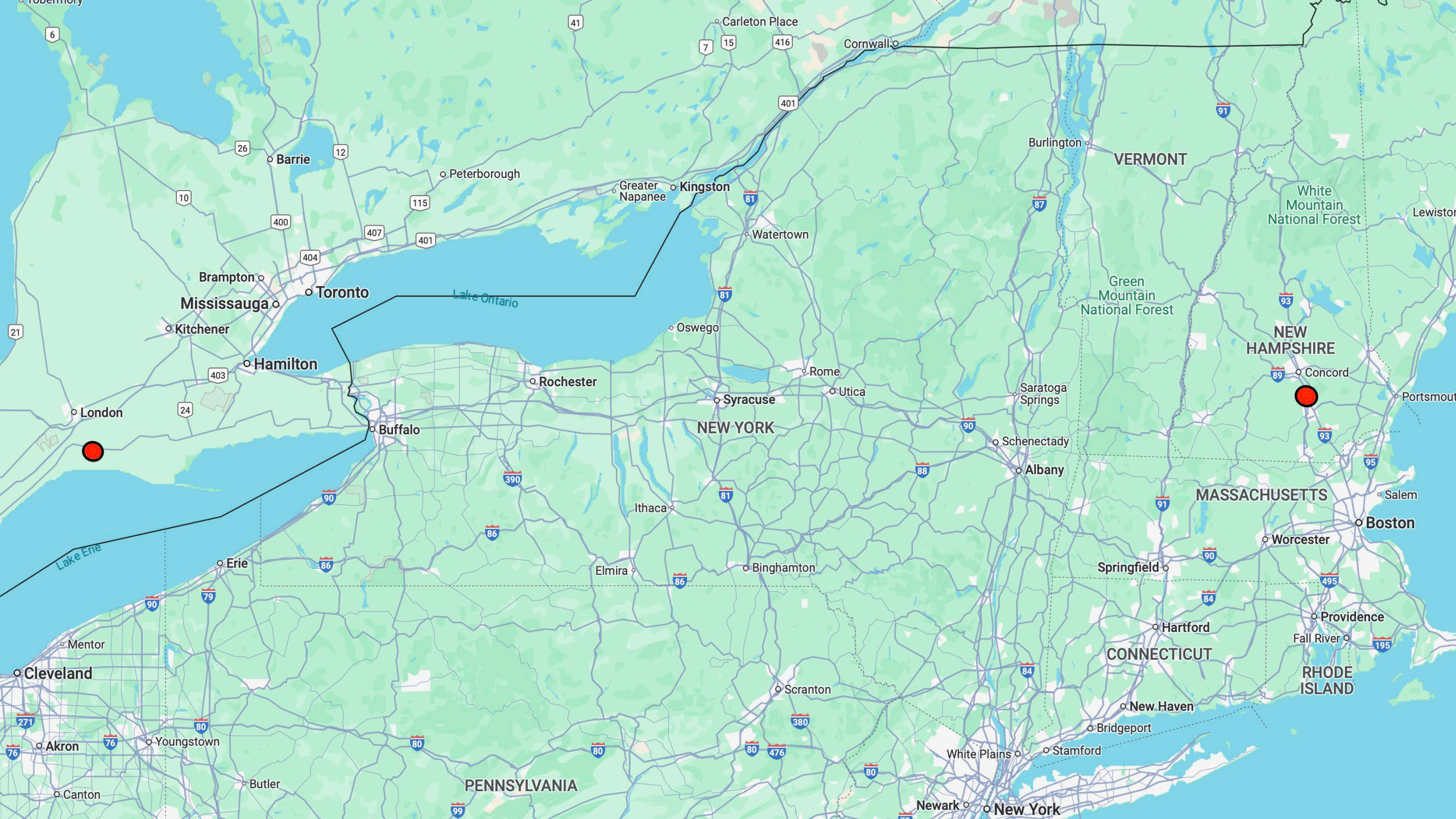


Scaling Up Organic No-Till Potatoes

Ken Laing

Orchard Hill Farm

St.Thomas, Ontario





LIVING LABORATORIES INITIATIVE

Organic No-Till Vegetable Trials

efao.ca/living-lab



Agriculture et
Agroalimentaire Canada

Agriculture and
Agri-Food Canada



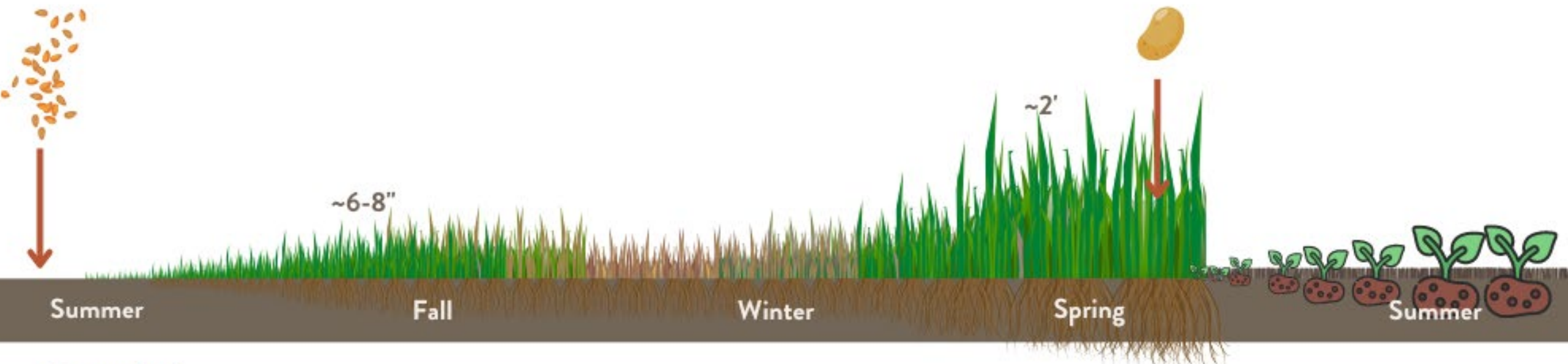
Canada

THE CHALLENGE OF POTATOES

- SOIL IS LEFT EXPOSED TOO LONG – RISK OF SOIL EROSION IS VERY HIGH
- TOO MUCH TILLAGE – LOSS OF ORGANIC MATTER -COST IN TERMS OF TIME AND MACHINERY WEAR AND TEAR
- PEST CHALLENGES –WEEDS, INSECTS AND DISEASES
- REDUCED SOIL HEALTH



Reduced Tillage for Organic Potatoes using Winter Rye



September 1

Seed rye thickly
150 lbs/acre

Fall

Rye grows throughout fall and keeps ground cover throughout winter

Winter

Spring

Rye grows back

Late April

Trench in potatoes
Terminate rye via mowing, late bloom right after potato emergence

Summer

Harvest potatoes





Rj Equipment
BLENHEIM, ONTARIO CANADA (519) 876-8110



















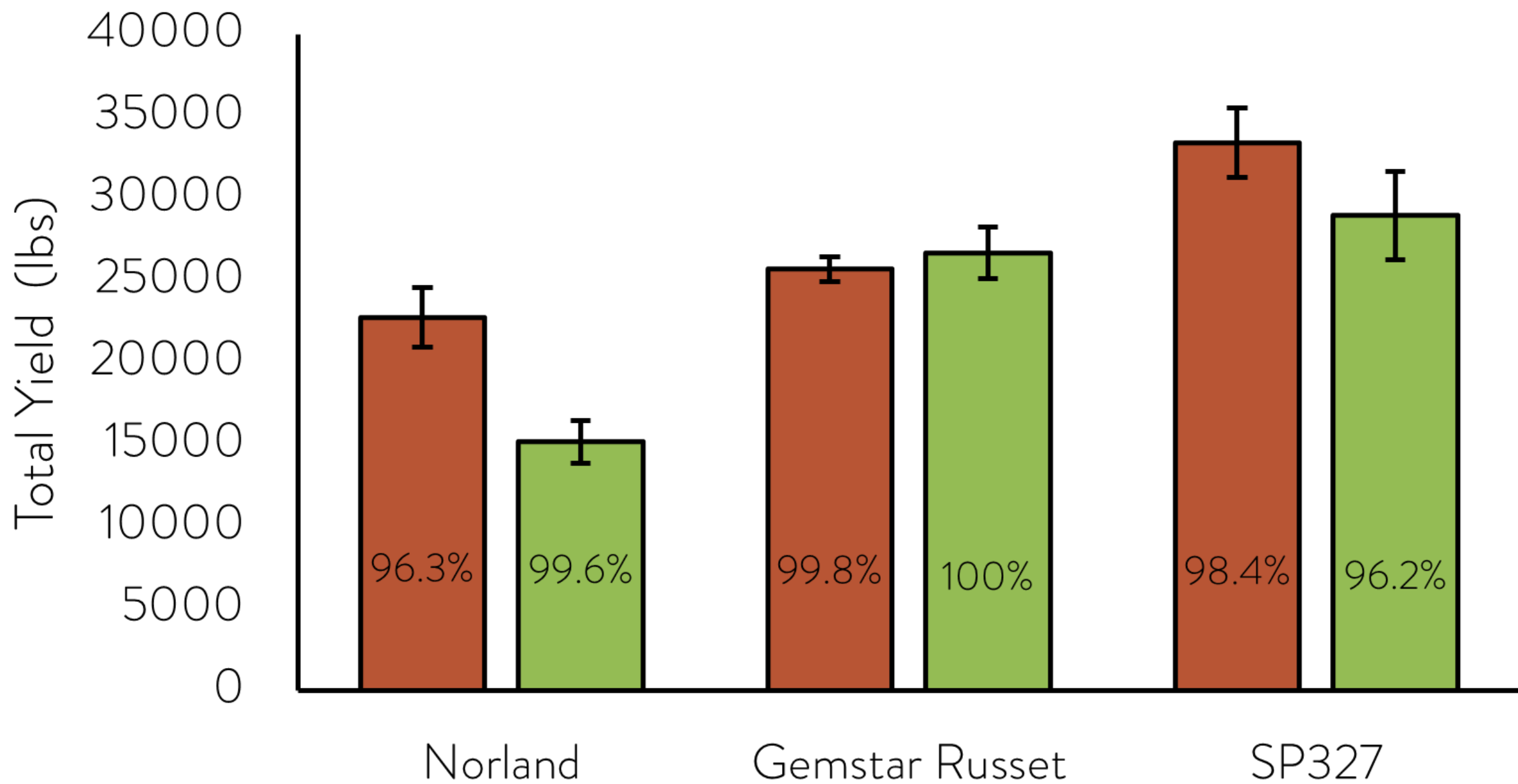




Side coulters and carrot blades on potato digger to work in no-till conditions



Control No-Till



2022 No-Till Organic Potato Trial

Activity	Tilled	No-Till
Apr. 15 rototilling R/HV	x	NA
Apr. 25 2 nd rototilling	x	NA
Apr. 25 field cultivation	x	NA
May 14 planted	x	x
May 26 tine weeded	x	NA
June 6 flail mowing	NA	x
June 10 row cultivation	x	NA
June 18 row cultivation	x	NA
June 18 side dressing	NA	x
June 18 tine weeding	x	NA
June 21 irrigated	x	x
June 27 row cultivated	x	NA
June 27 hand weeded	x	NA
June 27 sprayed Entrust	x	NA
July 7 row cultivated and hilled	x	NA
July 8 sprayed Entrust	x	x
July 13 irrigated	x	x
July 15 hand weeded	x	NA
Sept 1&3 harvested	x	x
Total activities or field passes	17	7
Reduction in field passes	$10/17 \times 100 = 58\%$	

TAKE HOME MESSAGE

- Deeper planting does not have much impact on greening of tubers and may reduce yield
- Some varieties may not be adaptable to no-till eg. Norland
- Using a rye cover crop and no-till planting can produce similar yields to tilled organic production with little change in green tubers
- Reduction in tillage passes and keeping the soil covered from fall of year before until harvest reduces costs and soil loss to erosion

IF YOU WANT MORE INFORMATION

KEN LAING –email – kmlaing@orchardhillfarm.ca