

# Reviving Old Grass Forage Stands with N Enhancer Products

Funding for this project provided by:

## ADOPT

Agricultural Demonstration of Practices and Technologies



### 4R Nutrient Stewardship Growing Here

The 4R Nutrient Stewardship principles are the same globally, but how they are used locally varies depending on field and site specific characteristics such as soil, cropping system, management techniques and climate.

Ask us how it's growing:  
@FertileCA @fertilecanada



RIGHT SOURCE	RIGHT RATE	RIGHT TIME	RIGHT PLACE
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Sustainable Farming Supports Canadian Agriculture

Reviving Forage Stands with N Enhancer Products

FERTILIZER CANADA

Nutrien Ag Solutions KOCH



# Rationale

- Grass forage stands responsive to added N
  - Scott and Pathlow, addition of N ↑ yield 2X or 3X
- Early spring most effective timing
- **But** late fall may be more practical
  - Road bands
  - Time constraints
  - Wet soils
- Fall applications = greater loss potential
- Can we reduce losses with N efficiency products?



# Project Set-Up

- Small and large scale
- Old grass dominated stand
- Low Soil low N
- Collected wet biomass
- Recorded % species present
- Efficiency N Products:
- Nitrain
- SuperU
- ESN

#	Application date	Rate (lb N/ac)	Form
1	Fall October 19, 2018	0	Control
2		45	Urea
3			ESN
4			Nitrain
5			Super U
6		90	Urea
7			ESN
8			Nitrain
9			Super U
10	Spring May 9, 2019	45	Urea
11			ESN
12			Nitrain
13			Super U
14		90	Urea
15			ESN
16			Nitrain
17			Super U

# Small scale replicated 4X

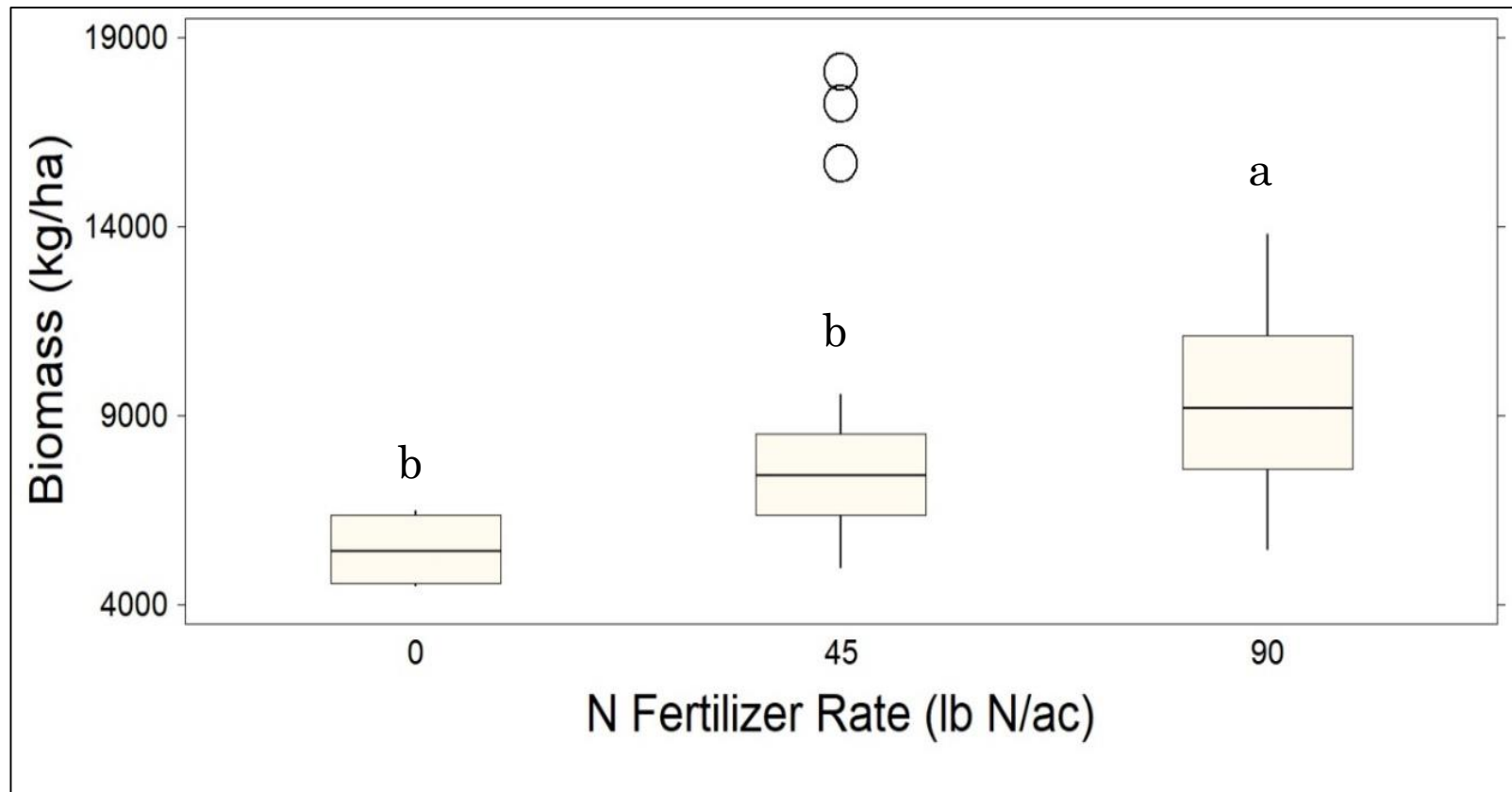


No inputs for at least 10 years



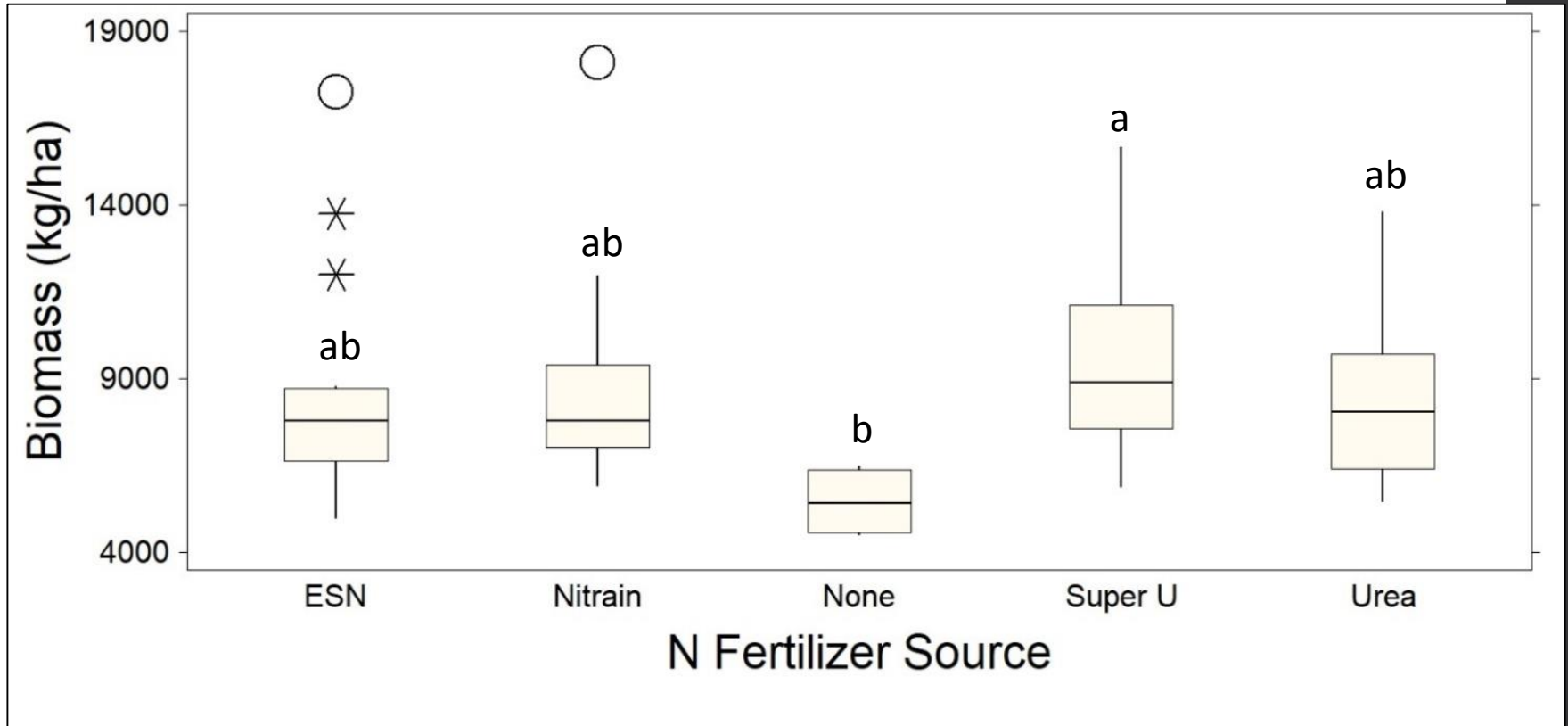
# Results – Small Scale

- Fertilizer increased yield
- 90 lb N/ac



# Results – Small Scale

- No difference between timing
- No differences between N products used



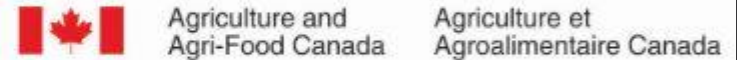
# Summary

- Addition of N can revive a grass forage stand in year 1
  - Other studies found yields of 1.5X in year 2
- Cool and dry conditions did not showcase true potential of efficiency products
- Efficiency products are a good idea if:
  - Broadcasting
  - Fall applying
  - Its going to be wet

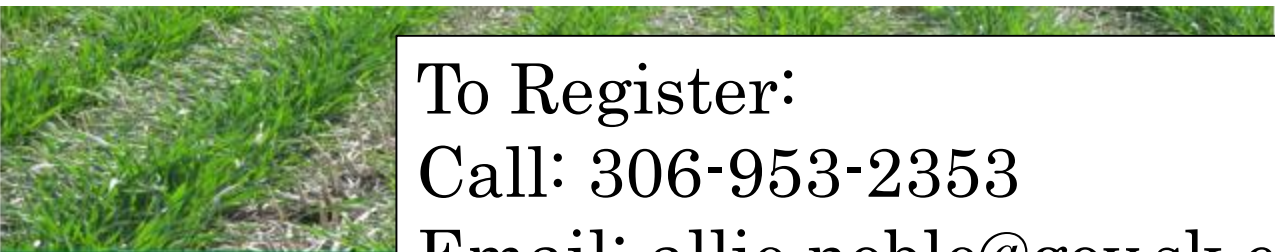


Source	\$/t	Rate	\$/ha
Control	0	0 lb N/ac	0
Urea	500	45 lb N/ac	55
Nitrain	580		64
SuperU	630		69
ESN	625		72
Urea	500	90 lb N/ac	110
Nitrain	580		128
SuperU	630		139
ESN	625		143

# Thank you! Questions?







To Register:  
Call: 306-953-2353  
Email: [allie.noble@gov.sk.ca](mailto:allie.noble@gov.sk.ca)

## CROP TALK 2020

WEDNESDAY, MARCH 25, 2020

9 A.M. TO 3 P.M.

**COST:** \$10 (LUNCH IS INCLUDED)

**AGENDA:**

**Research Updates from the Conservation Learning Centre (CLC)** - Robin Lokken, Manager

**2020 Pest Forecasting** - Allie Noble, Crops Extension Specialist, Ministry of Agriculture

**Who Said Money Doesn't Grow on Trees? The Economic and Conservation Values of**

**Shelterbelts** - Brooke Howat, Research Associate CLC and Dr. Bryan Mood, U of S

**A Producer's Perspective and Experience with Intercropping** - Sheldon Dowling, Local Producer

**A Producer's Experience with the Seed Terminator and Herbicide Resistant Weeds** - Josh

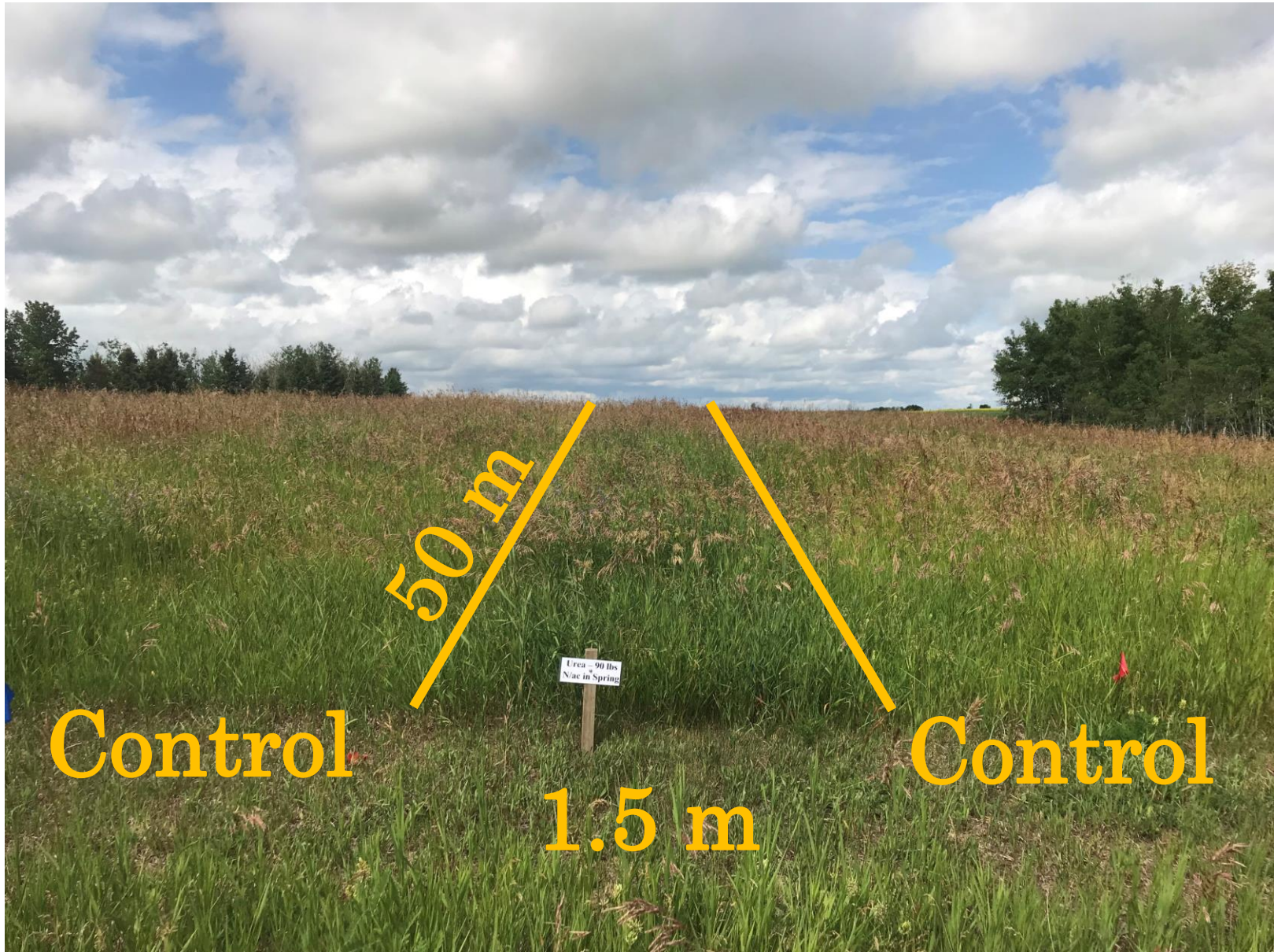
Lade, Local Producer

**Featuring Key Note: Fertility on your Farm** - Dr. Jeff Schoenau, U of S

**Location:** Prince Albert Wildlife Federation - Central Avenue North, RM of Buckland 491,  
Prince Albert SK

**Contact:** To register please contact the Prince Albert Regional Office at 306-953-2353 or  
email [allie.noble@gov.sk.ca](mailto:allie.noble@gov.sk.ca)

# Large “Field” Scale



Seeded in 2004



# Results-Large Scale



Hay yield response to added N fertilizer applied in the fall of 2018 at the Conservation Learning Centre.

Rep	Plot	Rate (lb N/ac)	Source	Bales/plot	Yield Kg/plot	Yield Kg/ha
1	110	90	Urea	3	27.4	3653
1	114	90	Nitrain	2	25	3333
1	115	0	None	2	16.7	<b>2227</b>
2	210	90	SuperU	3	31.9	4253
2	214	45	Urea	2	17.9	2387
2	215	0	None	2	21.24	<b>2832</b>

↑  
↑  
↑  
= control (0N)



- Only 6/66 strips/plots harvested
- Didn't capture spring
- No ESN
- SuperU at 90 lb N/ac had highest yield



# Results – Small Scale

- 17 treatments
- No clear trends
- Variability from species present
- SuperU @ 90 lb N/ac

