

# Interseeding Cover Crops into Standing Crops

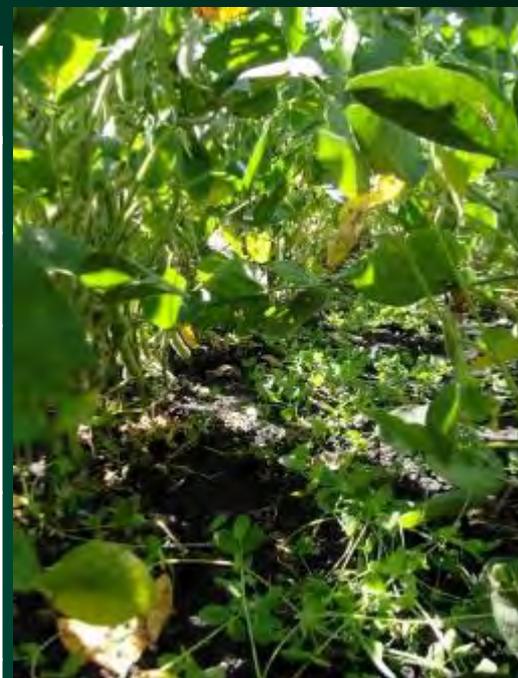
Marisol Berti  
Professor

Doug Toussaint, farmer,  
Wahpeton, ND



## Interseeding of cover crops into soybean at R4 and R6

	Soybean	
Cover crop	Grain yield	
	Mg ha <sup>-1</sup>	Bu/acre
Winter camelina	3.91	59
Austrian winter pea	4.23	62
Radish	4.06	58
Cereal rye	4.09	60
Mix	3.98	59
No cover crop	3.96	60
LSD (0.05)	NS	NS



Combined across both location and both planting dates



Pea 1<sup>st</sup> planting



Pea 2<sup>nd</sup> planting



Radish 1<sup>st</sup> planting



Radish 2<sup>nd</sup> planting



Rye 1<sup>st</sup> planting

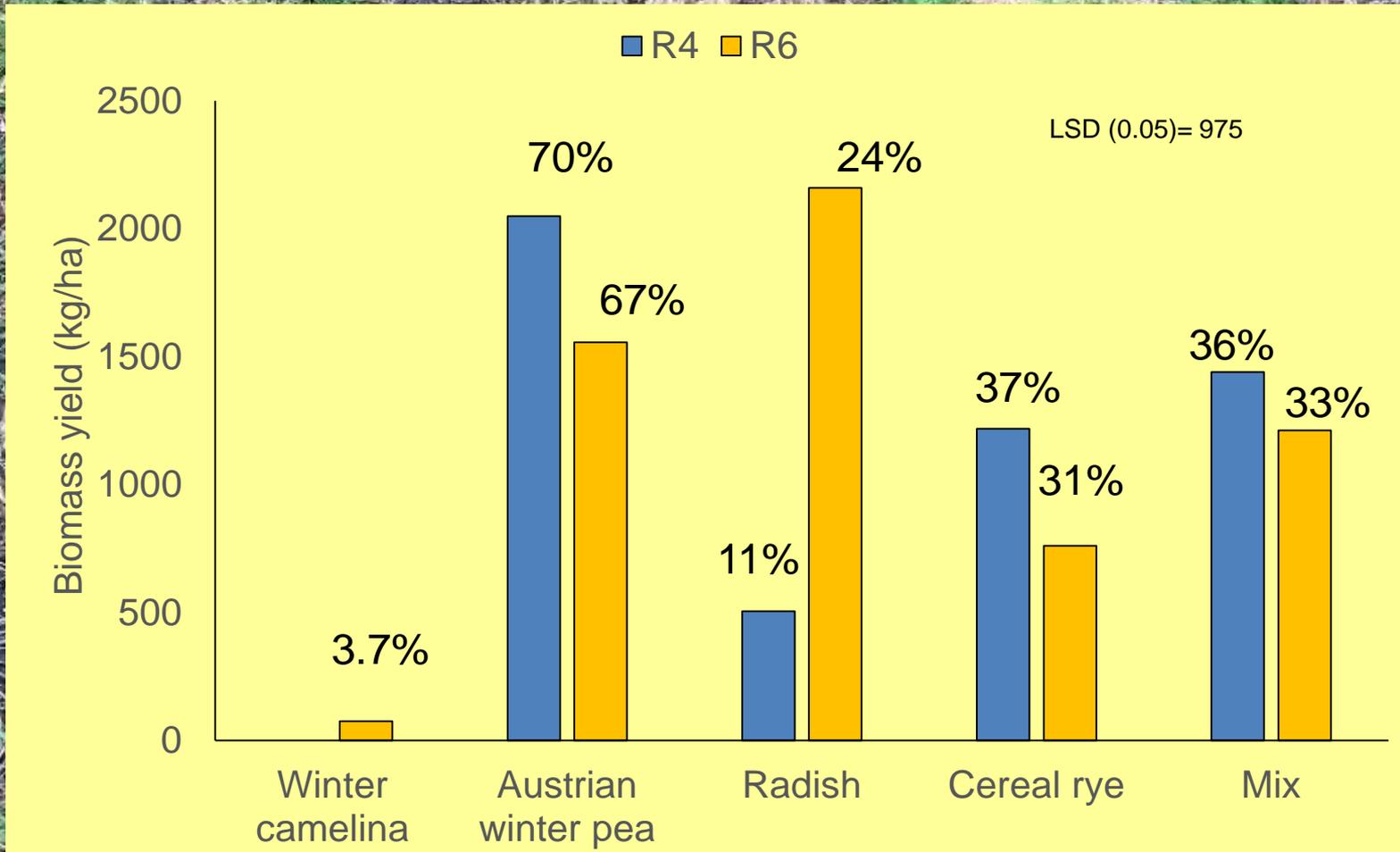


Rye 2<sup>nd</sup> planting

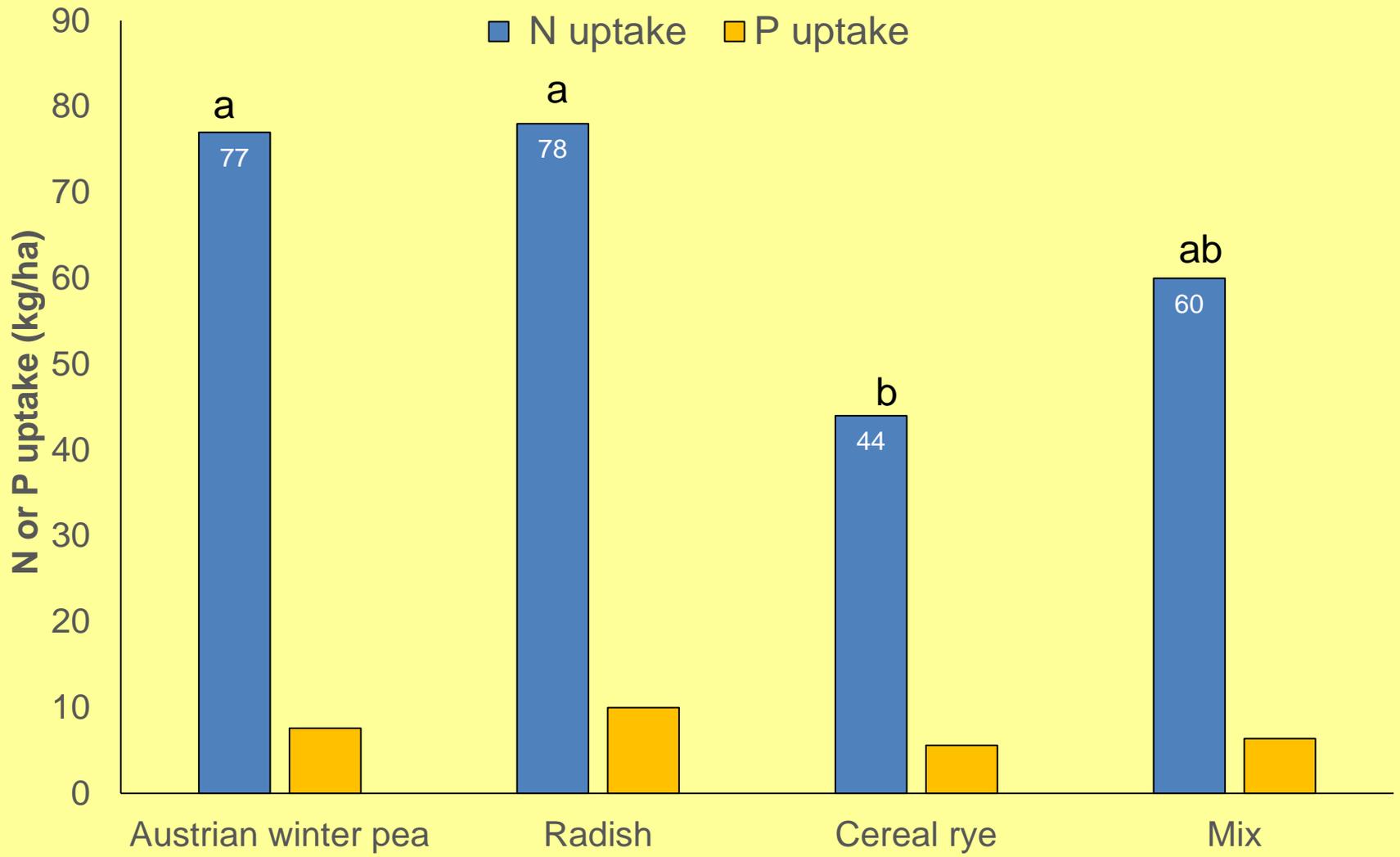
October 11, 2016

OT  
ER

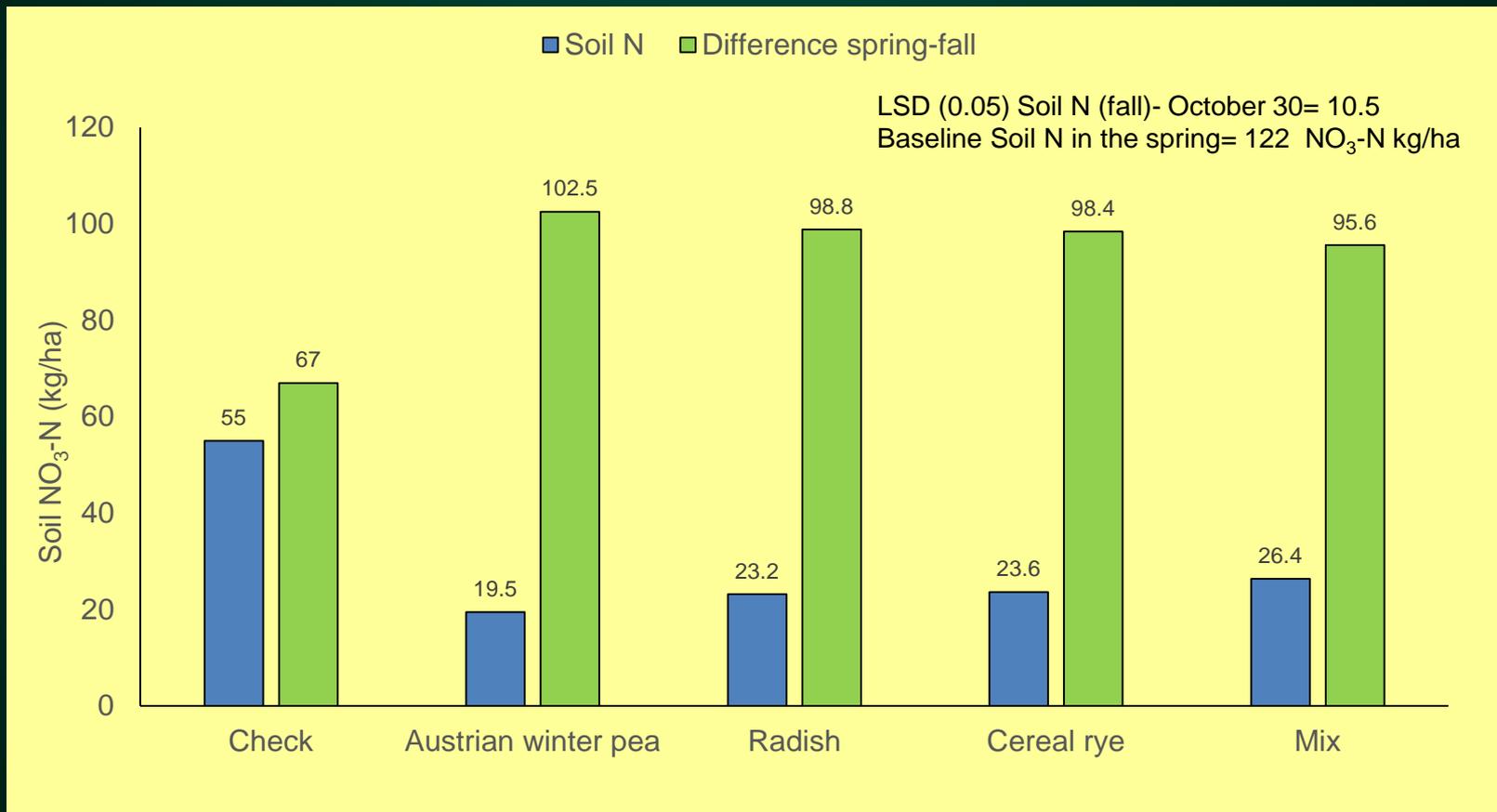
# Cover crops fall biomass and green cover in soybean



# N and P uptake of cover crops biomass



# Soil NO<sub>3</sub>-N in the fall (0-60cm depth) and difference from spring N



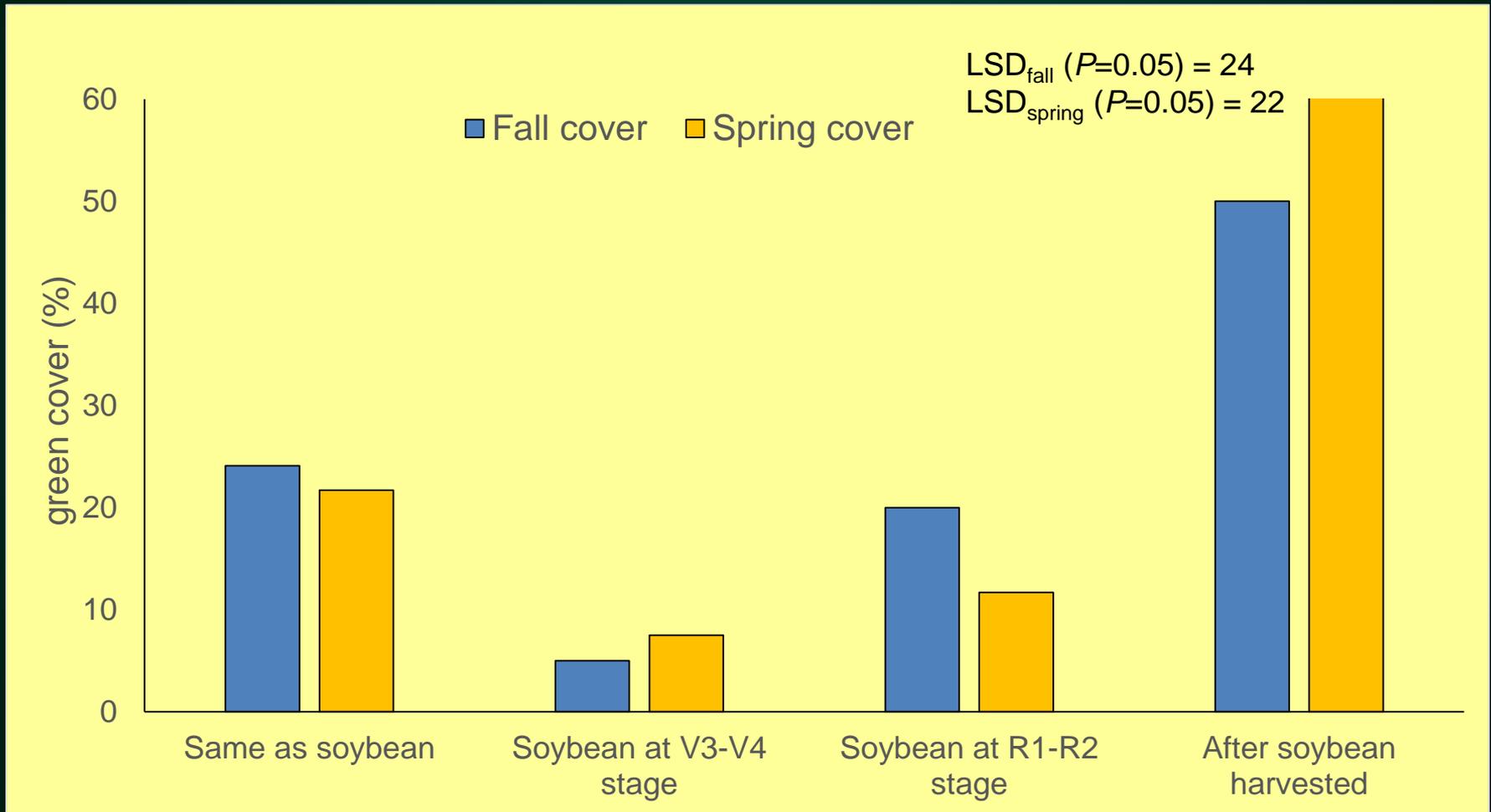
Cover crops decreased soil residual N significantly from the check

# Soybean yield- camelina interseeding

Soybean growth stage	Grain yield
	Mg ha <sup>-1</sup>
No winter camelina	4.2
Same seeding date as soybean	3.8
Soybean at V3-V4 stage	4.4
Soybean at R1-R2 stage	4.6
After soybean harvested	4.1
LSD ( $P=0.05$ )	0.2



# Camelina fall and spring cover





July 27



October 1

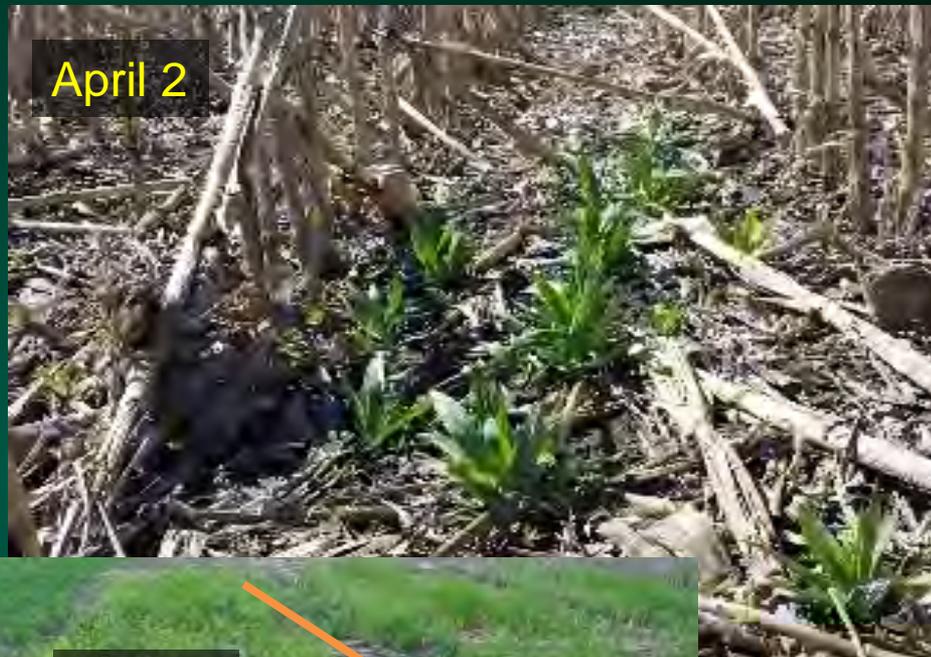


May 8

# Interseeding into standing corn



September 30

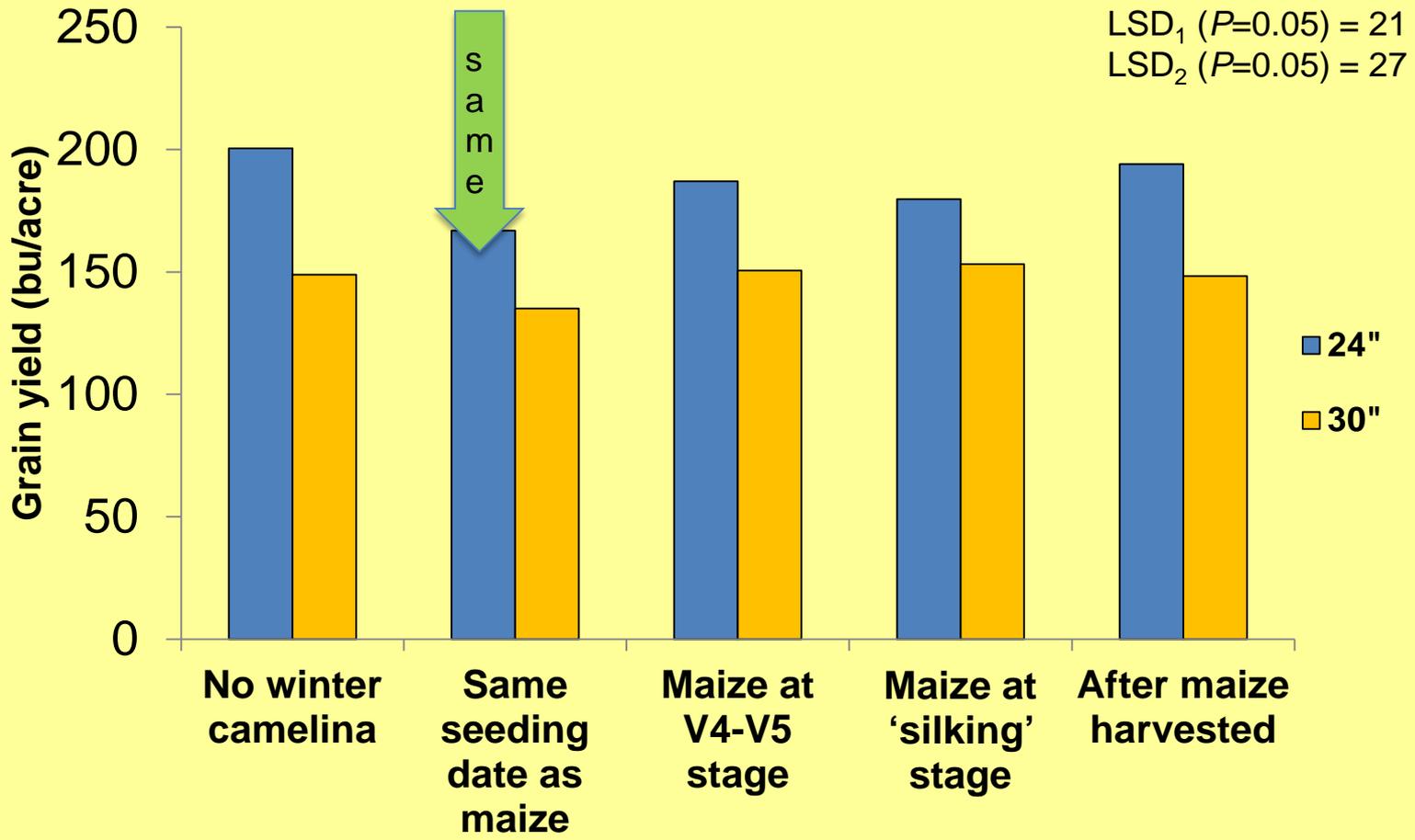


April 2

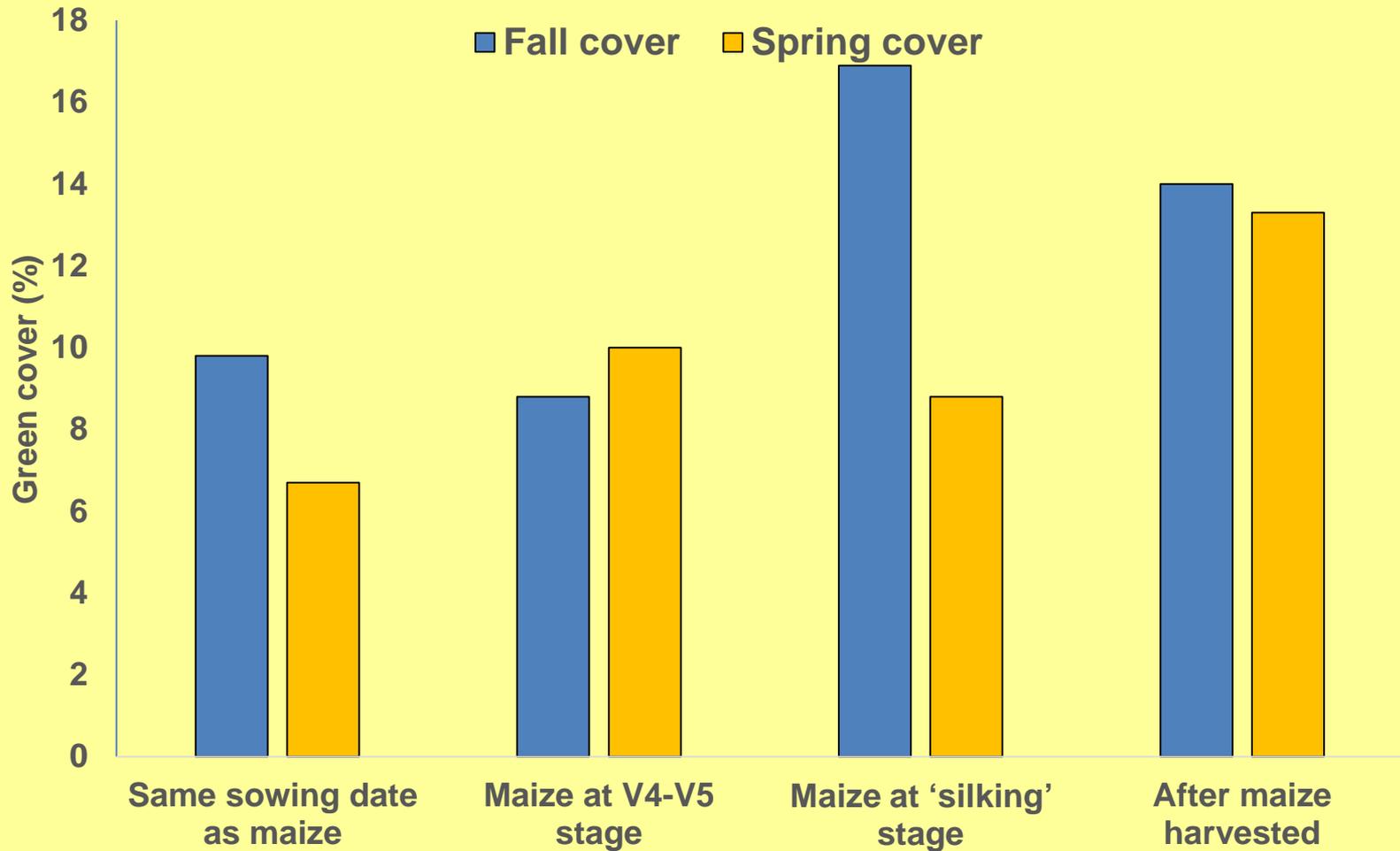


June 3

# Corn yield- camelina interseeding



# Camelina green cover in fall and spring



# Interseeding into standing corn- on farm



Photo : Abbey Wick



Photo : Karen Hertsgaard



Photo : Abbey Wick

Aerial rye + c.  
clover + radish  
@ R4 corn

Hagie rye  
+radish @R1  
corn

Rye + radish in twin  
rows @ V7 corn



# Post harvest- going into winter



Photo : Abbey Wick

# Toussaint Farms

Wahpeton, ND





**Crops in Rotation:** Small grain, Corn, Soybean, Sunflower

**Perennial Grass:** Reed Canary



Little to no slope



Clay (Daisy's)



Loamy clay (Bulles)

# Equipment

- Drag
- Supercoultter
- Planter
- Air Seeder
- Small Drill – Test Plots



# Main Goal:

*Fit a cover crop in every part of the rotation*



Reduce Erosion, Manage Water



Living Roots



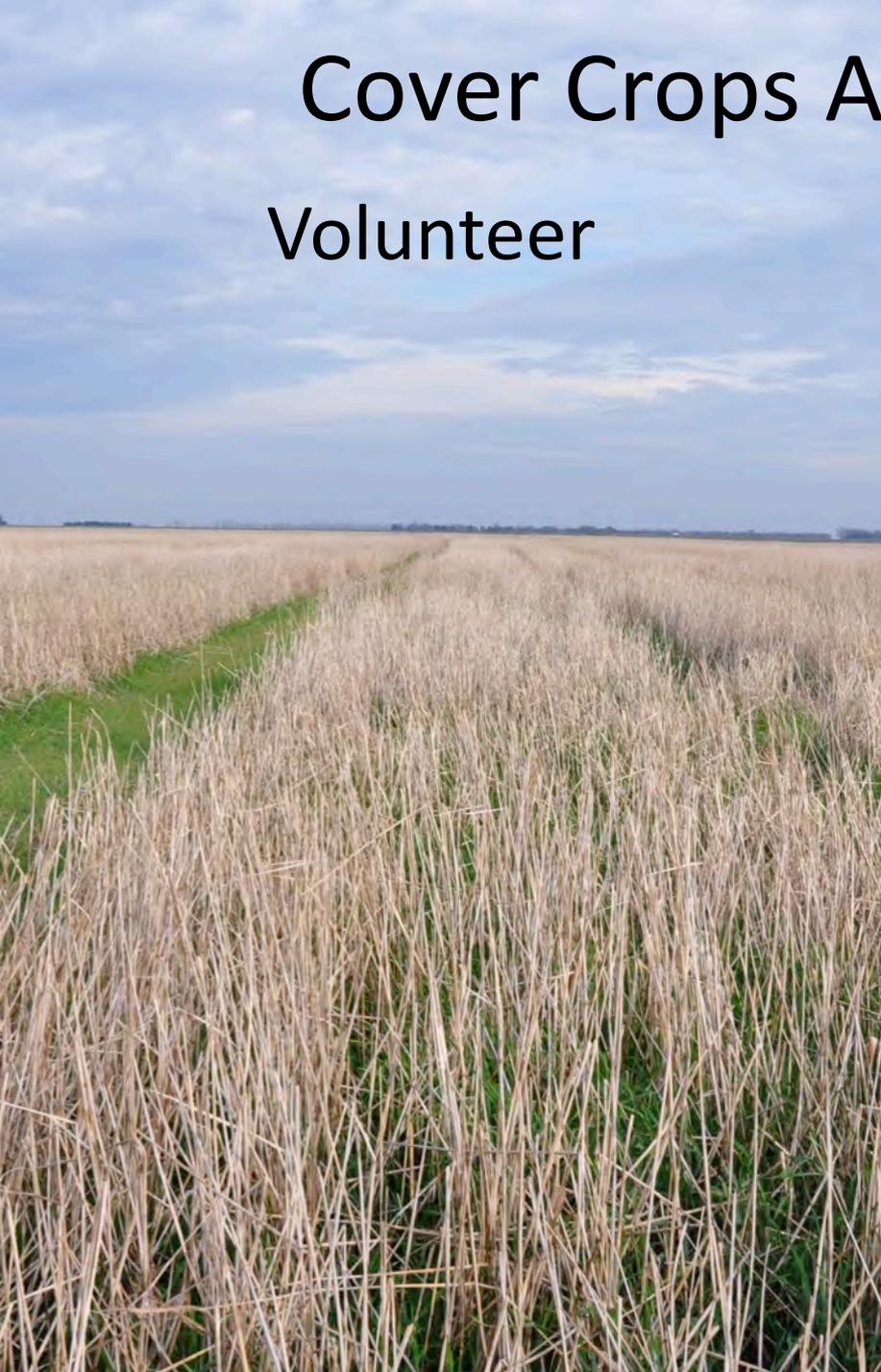
Improved Seedbed



Living Soil

# Cover Crops After Small Grains

Volunteer



Seeded



# Cover Crops in Corn

Airplane



Inter-seeding



# Cover Crops in Soybean

Planting Green



Post-Harvest



Airplane





After Wheat

Flown on into Soybean

Inter-seeded in Corn



# Cover Crops in Sunflower

Airplane



Seeded with Sunflower



# Thank you

Marisol Berti, Professor  
Department. of Plant Sciences  
Cell (701) 730-4770  
e-mail: [marisol.berti@ndsu.edu](mailto:marisol.berti@ndsu.edu)

Doug Toussaint  
Toussaint Farms  
Wahpeton, ND  
Cell (701) 640-2764  
E-mail: [ds2saint@agwireless.net](mailto:ds2saint@agwireless.net)

Photo: Nick Toussaint

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Marisol Berti, Abbey Wick ,Karen Herstgaard, Gene Breker