

The background of the slide features a soft-focus photograph of a green plant with several leaves, positioned on the left side. A solid dark blue horizontal bar spans the entire width of the slide at the bottom. The text is centered and reads:

FRST Phosphorus and Potassium Trials 2023-2024

2023-2024 Trials

Phosphorus

2023

- 1 alfalfa
- 2 silage Corn

2024

- 1 alfalfa
- 2 winter wheat

Potassium

2023

- 1 Alfalfa

2024

- 1 Alfalfa

Phosphorus Trial Treatments

Phosphorus Rates (lbs/acre)

- 0
- 50
- 100
- 150
- 200
- 250

Phosphorus Source

- Triple superphosphate (0-45-0)

2023- 2 Silage Corn Trials

2024- 2 Winter Wheat Trials

Control 406	200# 405	50# 404	250# 403	150# 402	100# 401
50# 306	250# 305	100# 304	150# 303	200# 302	Control 301
100# 206	150# 205	Control 204	50# 203	200# 202	250# 201
250# 106	200# 105	150# 104	100# 103	50# 102	Control 101

Alfalfa P and K Trial Design 2023-2025

- Same Phosphorus Rates
- Potassium Rates (lbs/acre)
 - 0
 - 60
 - 120
 - 180
 - 240
- Nonfertilized Control

Potassium Source

- Muriate of Potash (0-0-60)

240K 106	100P 107	250P 206	0K 207
0P 105	120K 108	50P 205	Control 208
180K 104	200P 109	60K 204	0P 209
60K 103	250P 110	200P 208	240K 210
150P 102	0K 111	120K 202	150P 211
Control 101	50P 112	100P 201	180K 212
I		II	

0K 306	100P 307	0P 406	0K 407
150P 305	240K 308	240K 405	50P 408
250P 304	120K 309	200P 404	180K 409
Control 308	200P 310	120K 403	Control 410
60K 302	180K 311	250P 402	150P 411
50P 301	0P 312	100P 401	60K 412
III		IV	

Alfalfa Starting Soil Test Values

USU Fertilizer
Recommendation
Critical Soil Test Values

Phosphorus (Olsen)
< 15 ppm

Potassium (Ammonium Acetate)
<150 ppm

12-inch
sampling
depth

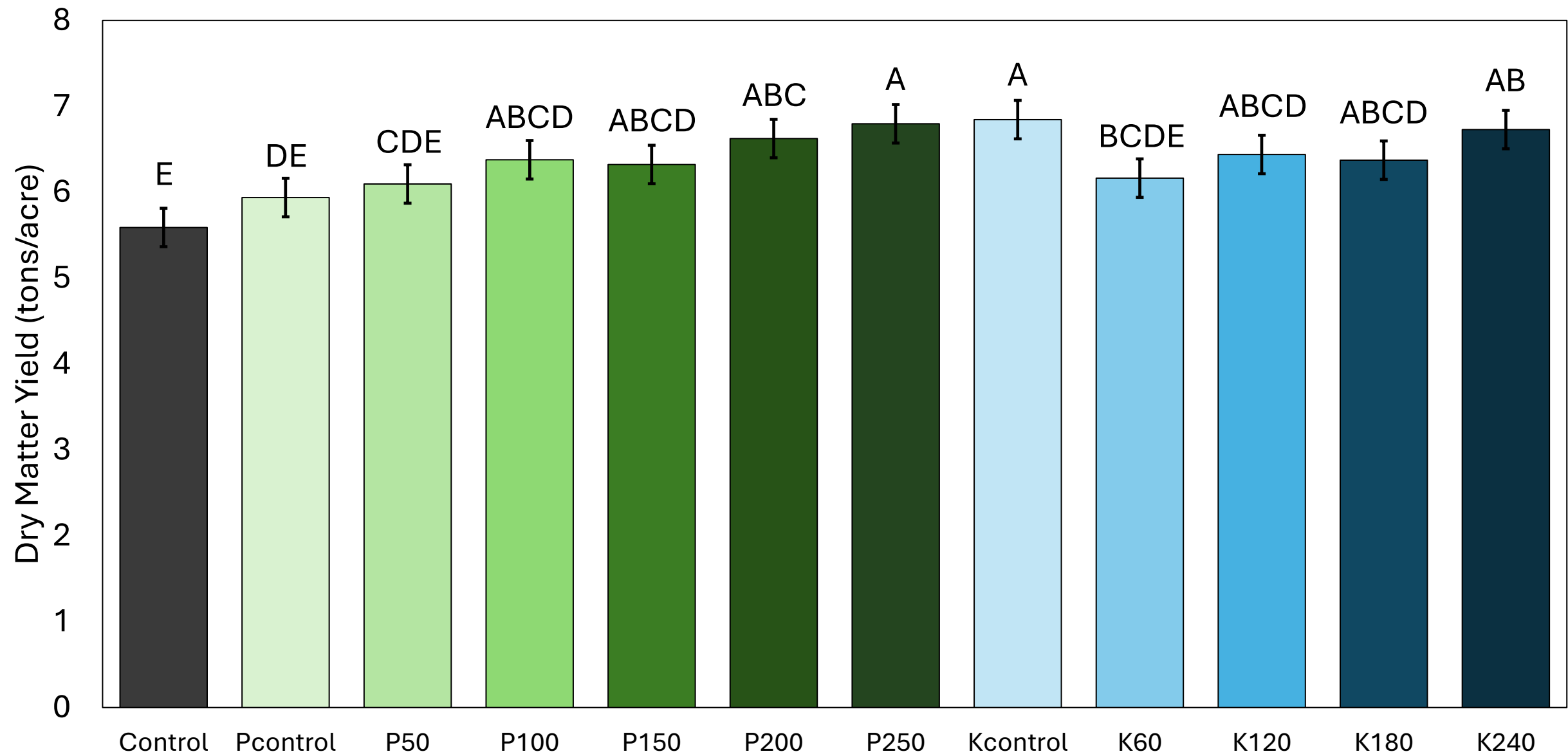
Phosphorus

2.3	3.5	6.0	7.7	5.1	5.2	8.9	9.8
4.2	3.3	7.7	11.6	4.4	8.3	8.6	11.7
4.3	4.8	3.0	5.9	4.2	5.1	6.0	12.2
5.9	3.9	7.3	13.7	4.6	4.9	6.9	13.8
7.9	9.8	4.8	16.7	9.3	4.4	7.5	14.9
8.7	7.3	11.8	13.5	11.3	4.7	5.3	7.9

Potassium

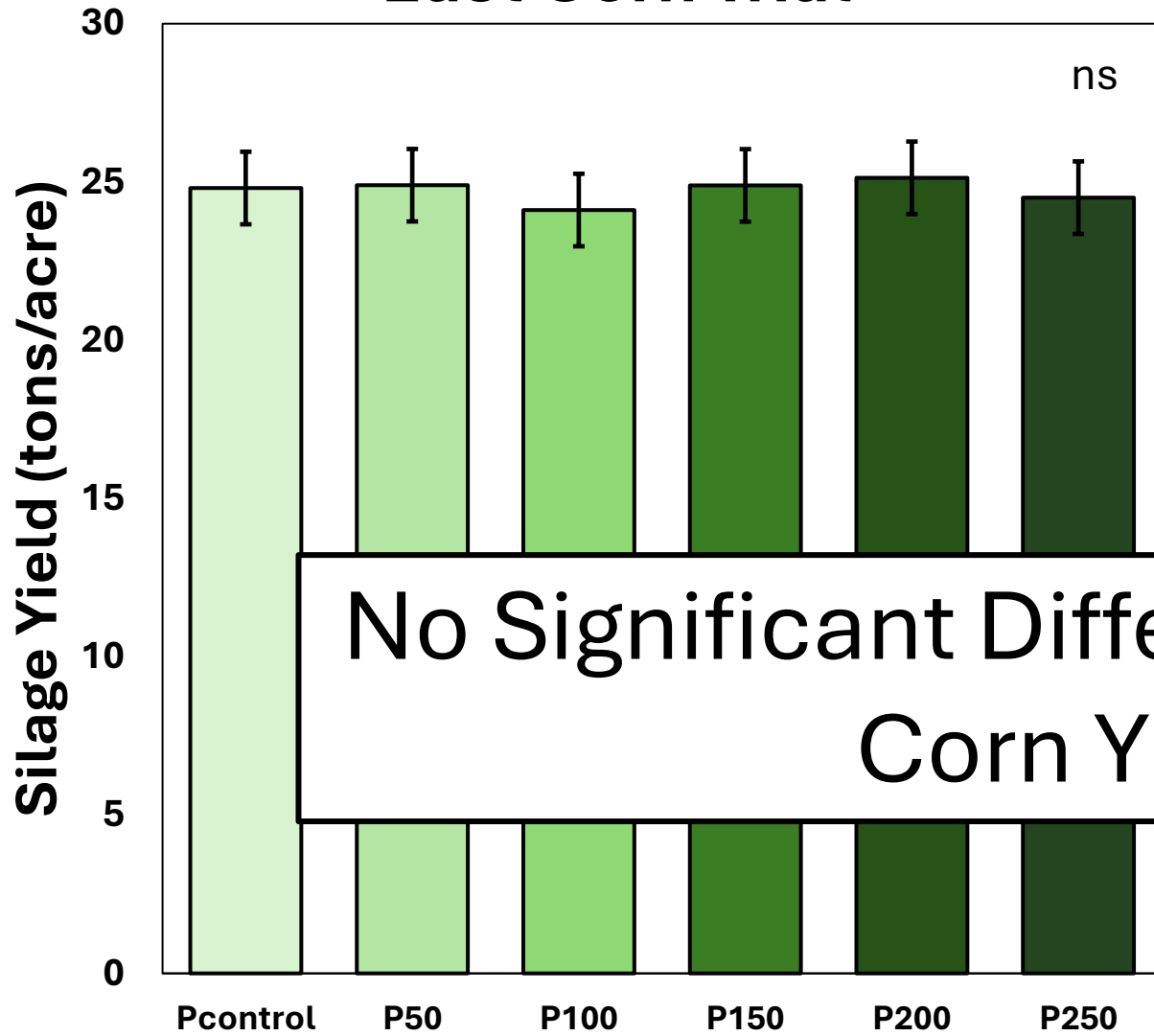
192	140	58	63	60	51	78	76
245	88	74	73	71	70	89	93
139	87	74	72	65	60	79	95
188	74	91	62	60	56	71	87
179	106	65	73	59	54	73	86
197	108	83	76	59	58	66	80

Alfalfa yield 2023-2024 across cuttings

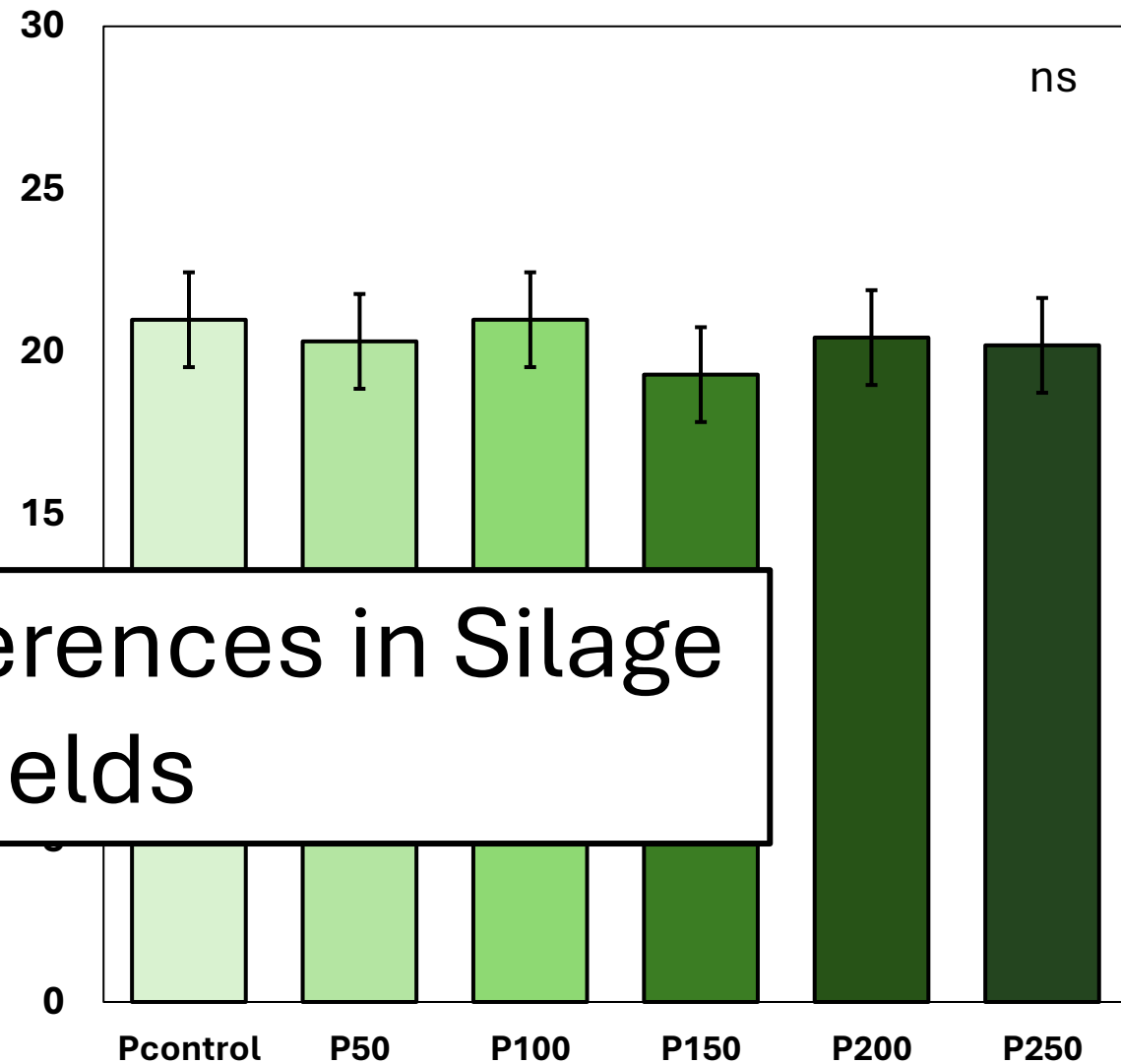


2023 Silage Corn Yield

East Corn Trial



West Corn Trial



No Significant Differences in Silage Corn Yields

Preliminary Conclusions

- Alfalfa responded to P at CSTV below existing 15 ppm but corn silage did not. May need to adjust CSTV for corn upward.
- Alfalfa did not respond to K at existing CSTV and it may need to be reduced.
- Final analysis is in progress:
 - Analysis alfalfa yield and forage quality by cutting
 - Analysis of wheat yield and quality
 - Analysis of corn grain quality