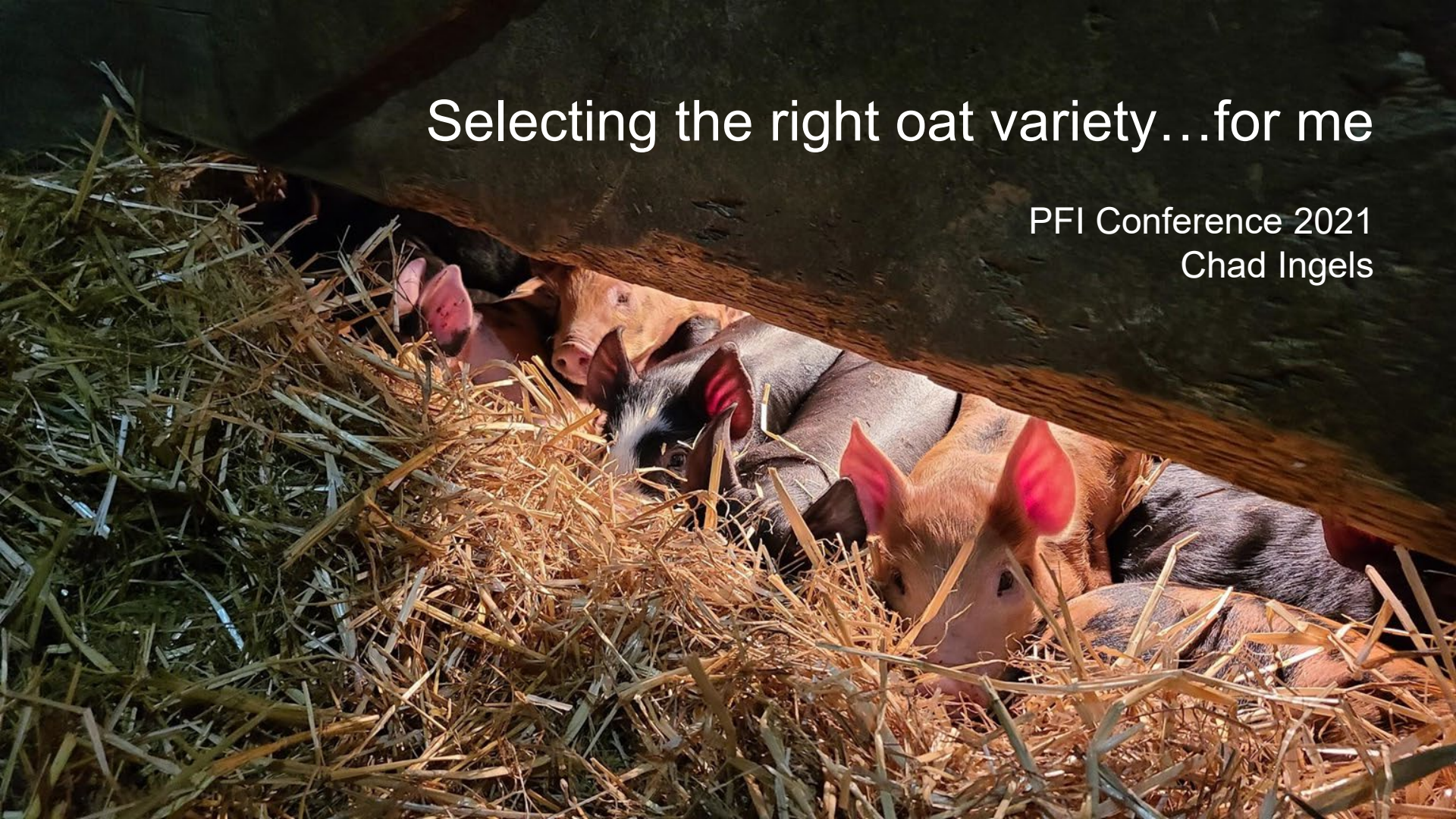
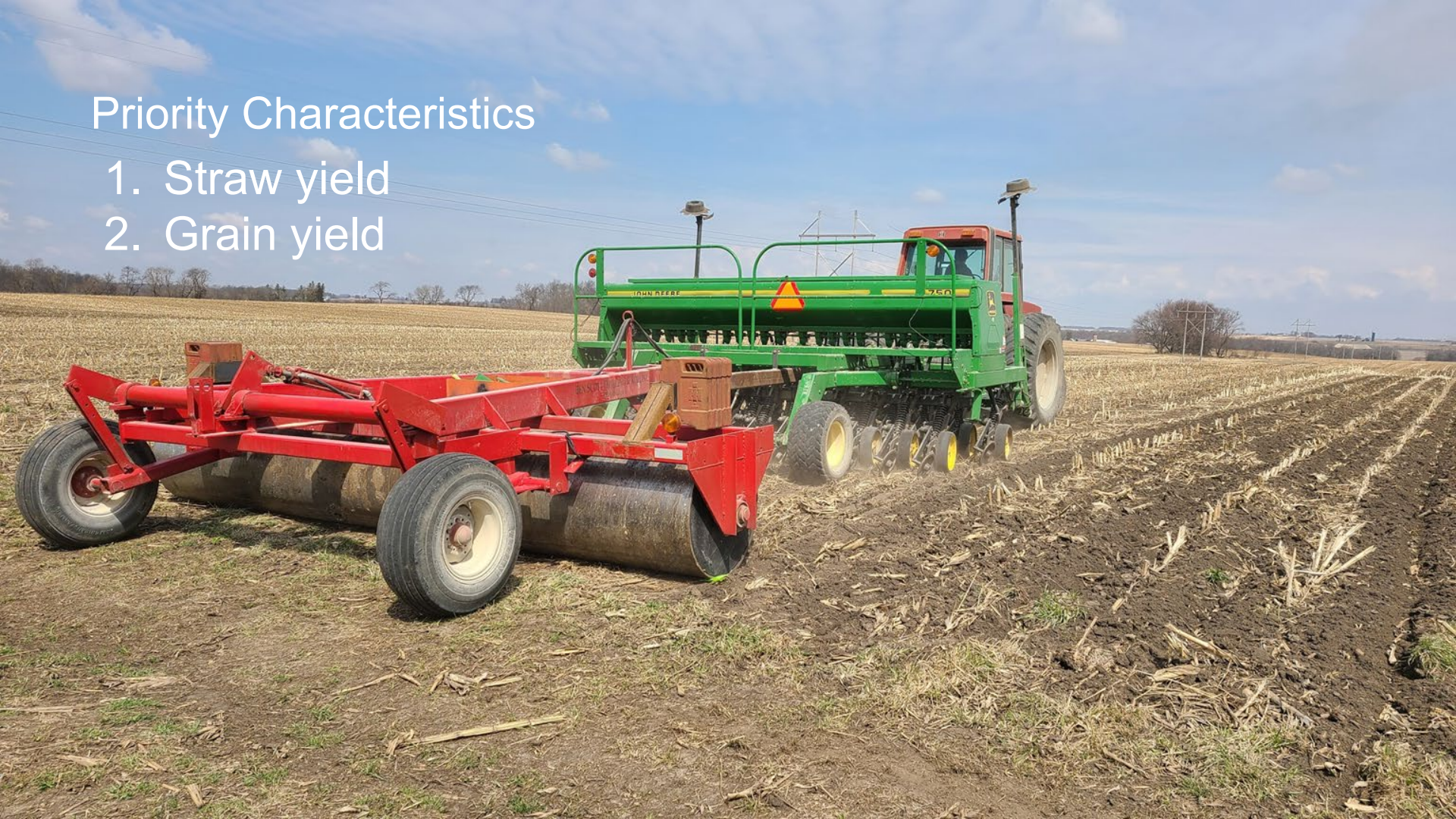


Selecting the right oat variety…for me

PFI Conference 2021

Chad Ingels


Priority Characteristics
1. Straw yield
2. Grain yield

PRACTICAL FARMERS OF IOWA
COOPERATORS' PROGRAM Farmer-Led Research

EXPERIMENT

2020

Staff Contacts

Stefan Gailans
Lydia English

Oat Variety Trial 2020

In a Nutshell:

- 18 oat varieties were screened at four Iowa State University research farms and two varieties were compared on one organic commercial farm.

Key Findings:

- Across varieties and sites, average oat yield was 121 bu/ac. Saddle had the highest yield at three of the four research farms.
- Streaker (hulless variety) scored the highest test weight at each location, however it was also the lowest yielding variety at each location. Sumo, Shelby 427 and Rushmore (hulled varieties) made food grade test weight specifications at three of the four research farms.

BACKGROUND

Careful management and proper choice of variety can make oats a profitable crop due to their low input requirements and

of a foliar fungicide applied at Feekes 9 growth stage, defined as flag leaf emerged with ligule visible.

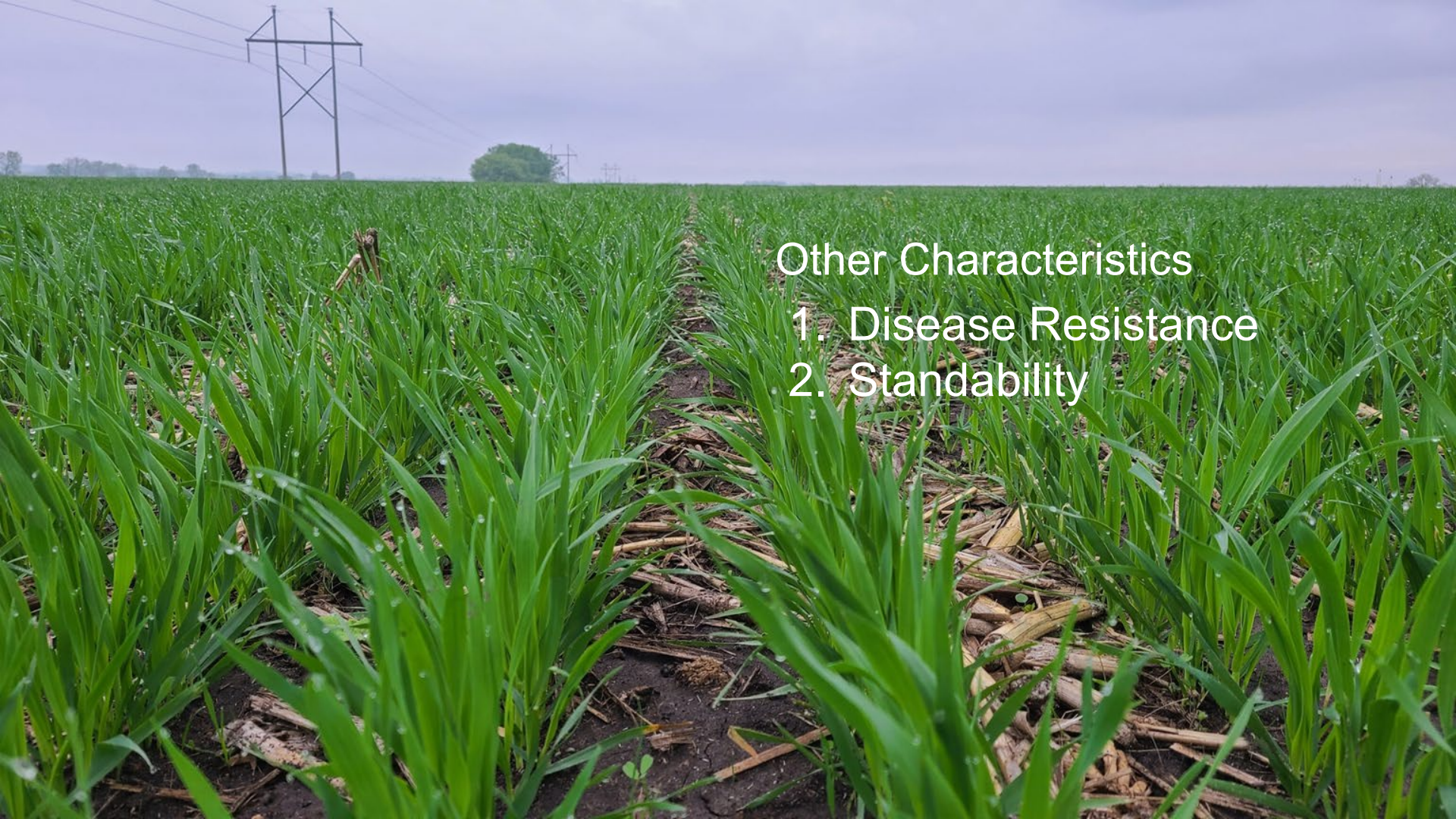
METHODS

Cooperators

ISU Northern Research Farm – Kanawha (Matt Schnabel)
ISU Ag Engineering and Agronomy Farm – Boone (Matt Schnabel)
ISU Northeast Research Farm – Nashua (Ken Pecinovsky)
ISU Southwest Research Farm – Lewis (Dallas Maxwell)
Ron Rosmann – Harlan

Collaborators

Margaret Smith, Albert Lea Seed House



Other Characteristics

1. Disease Resistance
2. Standability

TABLE 4. Results for the 2020 Oat Variety Trial at Nashua in northeast Iowa.
Varieties with a test that meets food grade specification (≥ 38 lb/bu) are highlighted.

VARIETY	YIELD (bu/ac)	YIELD (% of site avg.)	YIELD 6-yr avg. (bu/ac)[b]	TEST WEIGHT (lb/bu)	PLANT HEIGHT AT HARVEST (in.)	LODGING AT HARVEST (%)
Saddle	144	116	126	35.2	32	2.5
Rushmore	143	115	--	37.2	34	2.2
Esker 2020	138	111	134	33.3	33	2.2
MN Pearl	136	110	139	34.7	37	1.7
Reins	135	109	117	36.4	27	1.9
Ogle	131	105	--	32.7	33	2.3
Hayden	130	105	129	35.9	35	2.5
Goliath	128	104	127	36.3	41	2.6
Saber	127	102	124	34.6	33	1.8
Warrior	126	102	120	34.9	32	2.4
Antigo	125	101	106	37.1	32	2.2
Shelby 427	120	97	113	36.7	36	2.3
Natty	120	97	124	35.4	38	2.4
Sumo	118	95	110	37.8	33	2.1
Deon	116	94	125	33.9	37	2.2
Jerry	112	90	108	35.9	36	1.9
Morton	108	87	--	33.8	40	2.2
Streaker	81	65	--	42.5	36	2.3
MEAN	124	--	--	35.8	35	2.2
LSD[a]	15	--	--	0.3	3	0.6

[a] By response variable, if the difference between any two entries is greater than the least significant difference (LSD) the entries are considered statistically different with 90% confidence.
[b] 6-yr. average yields are listed only for those varieties trialed at least twice in the past six years at this location. This was the first year that Morton, Ogle, Rushmore and Streaker were trialed.

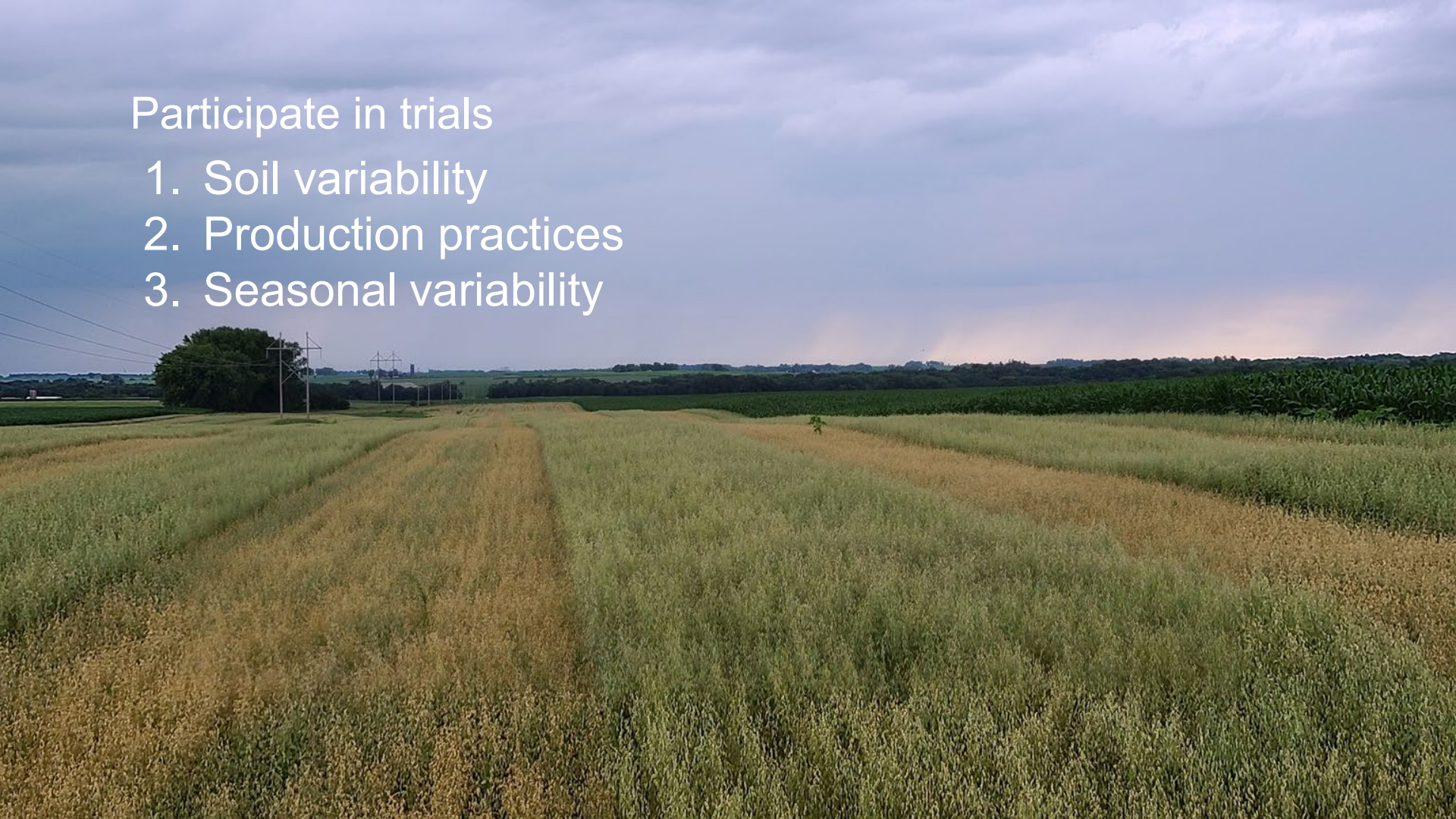
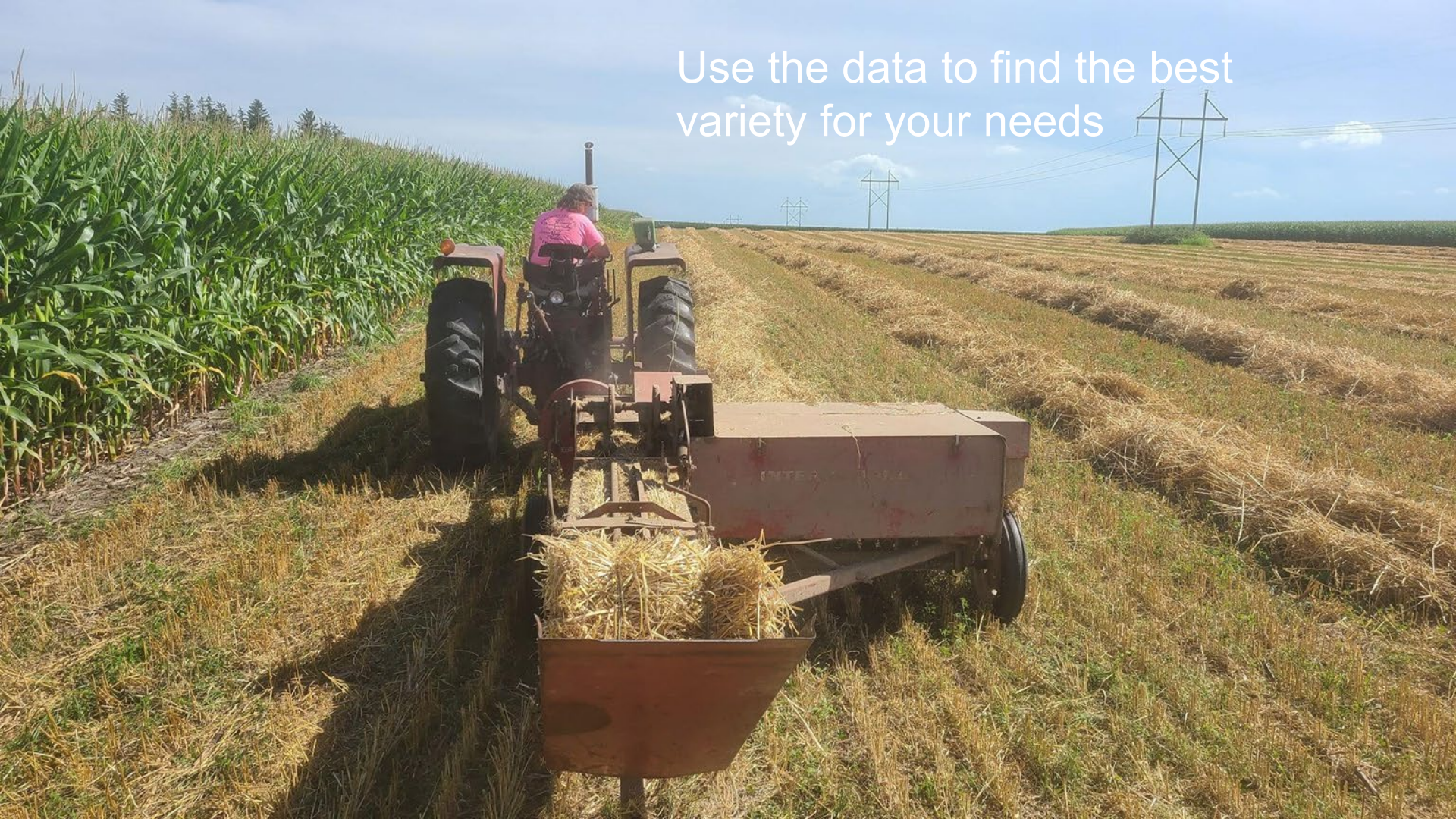

Participate in trials
1. Soil variability
2. Production practices
3. Seasonal variability

TABLE 5. Results for the 2019 Oat Variety Trial at Nashua in northeast Iowa.

VARIETY	YIELD (bu/ac) 2019	2018	2017	2016	4-yr	YIELD (% of site avg.) 2019	TEST WEIGHT (lb/bu) 2019	PLANT HEIGHT ON JULY 16 (in.) 2019	STRAW (tons/ ac) 2019	% HEADING ON JUNE 15[b] 2019	PLANT HEIGHT AT HARVEST (in.) 2019
Saddle	142	86	--	--	114	111	36	39	2.0	88	2
Pearl	141	97	--	--	119	110	35	38	1.6	2	4
Natty	135	98	120	129	121	106	37	44	1.6	90	29
Esker 2020	132	--	--	--	132	103	34	40	1.6	68	28
Hayden	131	101	129	132	123	103	36	40	1.7	7	14
Reins	131	90	110	116	112	103	37	35	1.3	94	31
Excel	131	--	--	131	131	103	35	38	1.4	55	28
Ron	128	101	--	--	114	100	34	39	1.7	6	4
Sumo	127	86	104	--	106	100	38	40	1.6	94	14
Shelby 427	124	81	102	115	105	97	37	40	1.5	78	33
Goliath	124	--	119	132	125	97	37	44	1.9	2	31
Horsepower	121	70	120	116	107	95	36	36	1.2	60	80
Antigo	121	79	98	--	99	95	39	38	1.4	86	28
Jerry	121	80	94	115	102	95	37	42	1.7	16	73
Deon	117	109	127	140	123	92	36	41	2.0	2	3
Warrior	115	--	--	--	115	90	33	37	1.8	9	2
MEAN	127	90	112	125	116	--	36	3	1.6	47	25
LSD(0.05)[a]	16	17	15	26	--	--	0	39	0.4	--	--

[a] By response variable, if the difference between any two entries is greater than the least significant difference (LSD) the entries are considered statistically different with 95% confidence.

[b] Take caution. Too much variability and experimental error precluded statistical analysis of plant height and lodging data.


Use the data to find the best
variety for your needs