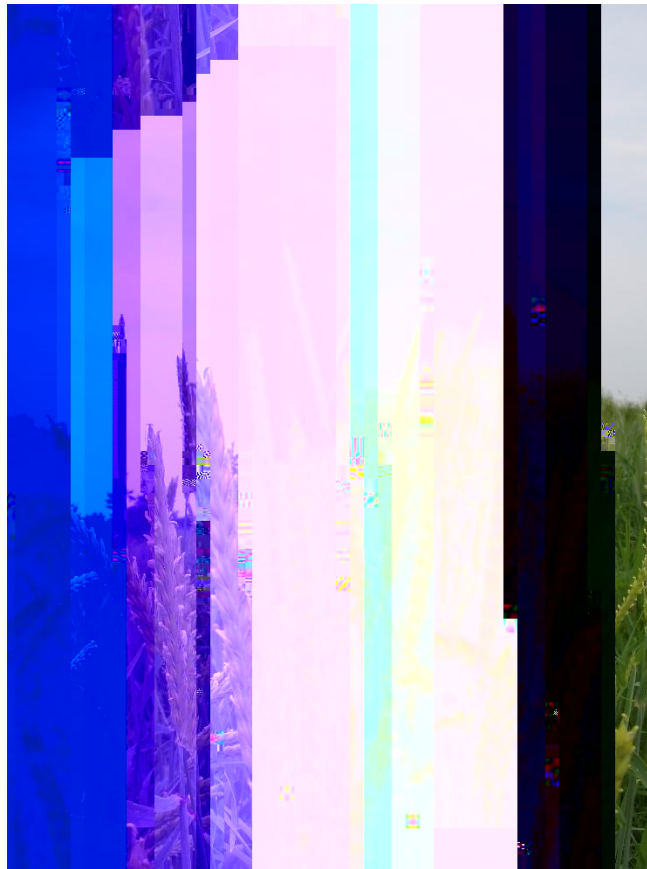


2021 Organic Spring Wheat Variety Trial



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2020 ORGANIC SPRING WHEAT VARIETY TRIAL
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In 2021,

Camero	HR	2017 Meridian Seeds, ND
Driver	HR	South Dakota State University, SD
Forefront	HR	South Dakota State University, SD
Glenn	HR	Albert Lea Seed, MN
LCS Albany	HR	Limagrain Cereal Seeds, LLC, CO
LCS Anchor	HR	Limagrain Cereal Seeds, LLC, CO
LCS Breakaway	HR	Limagrain Cereal Seeds, LLC, CO
LCS Iquaco	HR	Limagrain Cereal Seeds, LLC, CO
LCS Nitro	HR	Limagrain Cereal Seeds, LLC, CO
LCS Prime	HR	Limagrain Cereal Seeds, LLC, CO
LCS Pro	HR	Limagrain Cereal Seeds, LLC, CO
LCS Rebel	HR	Limagrain Cereal Seeds, LLC, CO
LNR13-0627	HR	Limagrain Cereal Seeds, LLC, CO
Lang-MN	HR	Albert Lea Seed, MN
MS Barracuda	HR	Saved Trial Seed, VT
Magog	HR	Semican Atlantic Inc., QC, Canada
Major	HR	SynAgri, QC, Canada
Moka	HR	Semican Atlantic Inc., QC, Canada
ND Vitpro	HR	North Dakota State University, ND
Oland	HR	University of Maine, ME
Pokona	HR	Semican Atlantic Inc., QC, Canada
Prevail	HR	South Dakota State University, SD
Prosper	HR	Albert Lea Seed, MN
Red Fife	HR	Cornell University, NY
Rocket	HR	Semican Atlantic Inc., QC, Canada
Sabin	HR	Cornell University, NY
Shelly	HR	Dahlman Seed Co., MN
Tom	HR	Cornell University, NY
Torgy	HR	Albert Lea Seed, MN
Trigger	HR	Saved Trial seed, VT

HR- Hard Red.

Plots were harvested with an Almaco SPC50 small plot combine on 3-Aug. Grain moisture, test weight, and yield were determined at harvest. Seed was cleaned with a small Clipper M2B cleaner (A.T. Ferrell, Bluffton, IN) and a subsample was collected to determine quality characteristics. Grain quality was determined at UVM Extension's E. E. Cummings Crop Testing Laboratory (Burlington, Vermont). Samples were ground using the Perten LM3100 Laboratory Mill. Flour was analyzed for protein content using the Perten Inframatic 8600 Flour Analyzer. Most commercial mills target 12-15% protein content for bread wheat. Falling number was measured (AACC Method 56-81B, AACC Intl., 2000) on the Perten FN 1500 Falling Number Machine. The falling number indicates the level of enzymatic activity in the grain. It is determined by the time it takes, in seconds, for a stirrer to fall through a slurry of flour and water to the bottom of a test-tube. An ideal falling number range is between 300-350, which indicates low enzymatic activity and sound quality wheat. A falling number lower than 200 indicates high enzymatic activity and poor quality wheat, typically as a result of pre-harvest sprouting damage in the grain. Falling number above 400 is suitable but may inhibit fermentation when used for baking.

Deoxynivalenol (DON), a vomitoxin, was analyzed using Veratox DON 5/5 Quantitative test from the NEOGEN Corp. This test has a detection range of 0.5 to 5 ppm. Samples with DON values greater than 1 ppm are considered unsuitable for human consumption. One sample of each variety was run and all tested well below the threshold for human consumption (data not shown).

Stand characteristics were analyzed using mixed model analysis using the mixed procedure of SAS (SAS Institute, 1999). Replications within the trial were treated as random effects, and treatments were treated as fixed. Treatment mean comparisons were made using the Least Significant Difference (LSD) procedure when the F-test was considered significant ($p < 0.10$).

Variations in project results can occur because of variations in genetics, soil, weather, and other growing conditions. Statistical analysis makes it possible to determine whether a difference among treatments is real or whether it might have occurred due to other variations in the field. At the bottom of each table, a LSD value is presented for each

Prevail	7-Jun	57.2	14.6	2450
Prosper	7-Jun	55.8	15.1	3327*
Red Fife	10-Jun	54.1	16.1	1263
Rocket	7-Jun	57.2	15.7	3416*
Sabin	7-Jun	57.4*	15.0	3086*

Table 5. Spring wheat quality data, Alburgh, VT, 2021.

Variety	Crude protein @ 12.5% moisture	Falling Number
	%	Seconds
AC Scotia	12.9	390
AC Walton	14.2	355
Alaska	15.0	325
Bolles	16.0*	356
Boost	14.9	298
Camero	16.0*	270
Driver	13.5	363
Forefront	15.8	231
Glenn	17.4	297

DISCUSSION

The 2021 growing season was