Cornell University
College of Agriculture and Life Sciences

Plant Breeding & Genetics Section
School of Integrative Plant Science

240 Emerson Hall, Ithaca, N.Y. 14853-1902
Telephone: (607) 255-1665
Fax (Dept.): (607) 255-6683
E-Mail: mes12@cornell.edu
Web Page: http://smallgrains.cals.cornell.edu

2021 Small Grains Performance Trials for New York

Enclosed are the results of our 2021 small grains regional trials and the cumulative summaries over years. Because the rankings of the varieties and lines often change from year to year, only the multiple year summaries should be considered to be useful indicators of varietal performance in this region. Reproduction of any table in this report must include the entire table unless we approve the editing. The information herein is provided with the understanding that no discrimination is intended and no endorsement by Cornell University or its employees is implied.

Your comments and suggestions concerning this report are welcome. If you would like additional information or do not wish to receive this report in the future, please contact us. Summaries and information about the Cornell Small Grains Breeding & Genetics Project are maintained on our small grains web page: http://smallgrains.cals.cornell.edu

We have continued to develop and test selections from our molecular marker-assisted breeding program in our soft winter wheat and barley breeding programs. Our most recent varieties are Medina (soft white) and Erie (soft red). These selections have improved resistance to preharvest sprouting and fusarium head blight combined with excellent agronomic performance. Erie is a soft red winter wheat variety released in collaboration with Ohio State University that has excellent grain yield and disease resistance to powdery mildew, leaf spot, glume blotch, leaf rust, wheat spindle streak mosaic virus, wheat soil borne mosaic virus, and moderate resistance to fusarium head blight (scab). This past year we introduced a new spring oat variety named Steuben. Also, we released Cornell's first spring malting barley variety named Excelsior Gold. Certified seed of Excelsior Gold was produced in 2021. Please contact Phil Atkins (pma3@cornell.edu), for more information.

I wish to recognize the contributions of Research Support Specialist, David Benscher, Technical Assistant, James Tanaka, and Field Assistants, Josh Knecht and Jenna Rice and thank them for their dedication.

Sincerely,

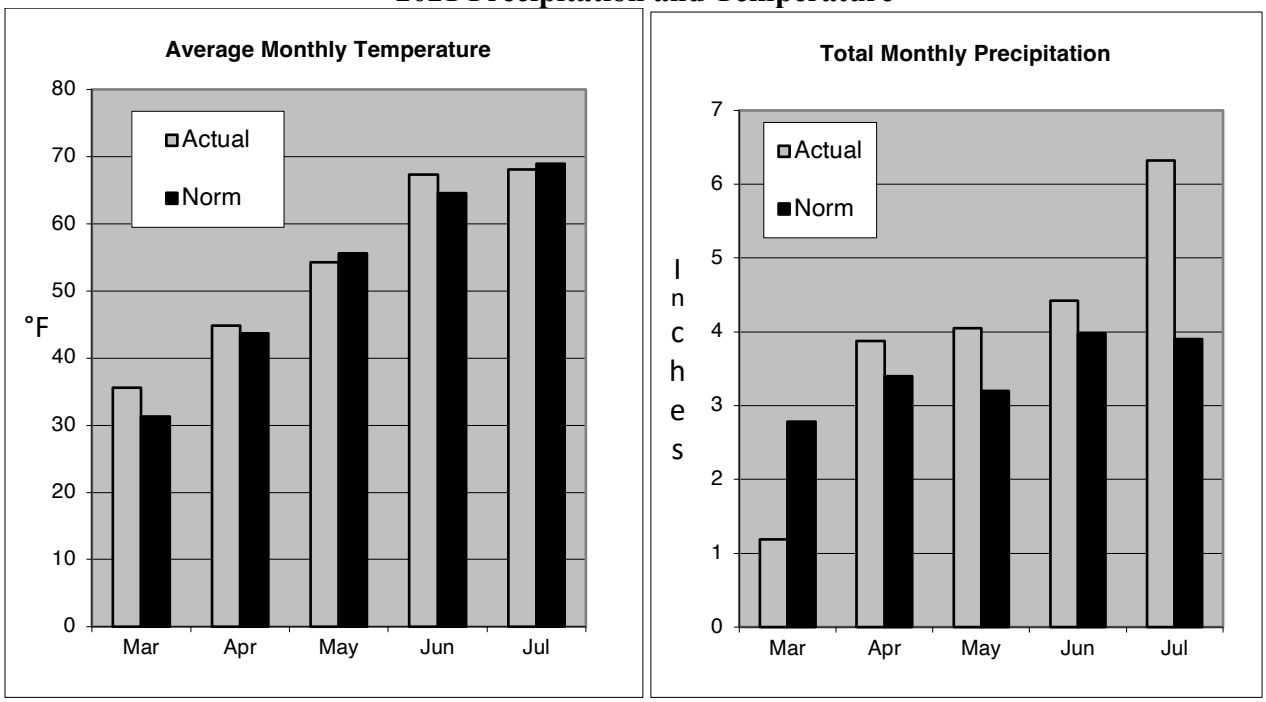
Mark E. Sorrells
Professor of Plant Breeding & Genetics

Testing Procedures:

In 2021, the Soft White Winter Wheat, Soft Red Winter Wheat, Winter Malting Barley, Winter Hybrid Rye, Spring Malting Barley, and Spring Oat regionals were grown in four locations. The wheat and oat trials near Ithaca consisted of 2 replicates while those out in the state consisted of 3 replicates. All barley and rye trials were grown in 3 replicates at all locations. All trial plots are 6-rows, 4 meters long with 18 cm between rows. Prior to harvest, the plots are trimmed to 3 meters. Disease and lodging notes were recorded on a 0 to 9 scale with 0 being the best and 9 the poorest.

All trials are planted in a randomized complete block design and analyzed by ANOVA. If there are indications of within replicate field variation a second ANOVA using a nearest-neighbor adjustment is computed based on the nearest 8-plot mean. If the coefficient of variation was reduced and the variance due to genotypes was the same or increased, those adjusted means were used for the summary. All trials are fertilized according to soil test recommendations for small grains. Winter grains trials generally receive a top dress of 56 kg/h (50 lbs/a) of actual N in the spring. For more information about small grains management see http://fieldcrops.cals.cornell.edu/.

2021 Precipitation and Temperature



The winter wheat, winter malting barley and hybrid rye trials were planted on October 6 and 8 in Ithaca, September 25 in Seneca County and October 5 in Monroe County. The spring grains were planted on April 9 and 27 in Ithaca and April 9 in Steuben County. The Hudson Valley winter trials were planted on October 15 and spring trials were planted April 20. The growing season averaged about 1.2 degrees warmer than normal and rainfall was 2.6 inches above average rainfall with a total of 19.9 inches for the growing season (March – July) in Ithaca.

Acknowledgments:

Our testing program depends on being able to test new varieties in the areas where they will be grown under actual farming conditions. We gratefully acknowledge the many farmers who have provided us with a test site for our regional trials over many years. This year, the test site for winter grains was generously provided by Jeff Trout (Poormon Farms) in Seneca County and Rick Bair (Stokoe Farms) in Monroe County. Test sites for spring grains were provided by Dave Wallace - Steuben County and Eddie Clevenger in Ulster County (Farm Hub). Without their support we would not be able to provide accurate, unbiased test results. Extension specialists Mike Stanyard and Kevin Ganoe, Aaron Gabriel and Christian Malsatski have been instrumental in arranging test sites, field days, and information distribution. Also, we thank Drs. Gary C. Bergstrom and Margaret E. Smith, extension faculty in Plant Pathology and Plant Breeding & Genetics for their excellent cooperation and support. We also gratefully acknowledge the financial support from the Genesee Valley Regional Marketing Authority, NY State Ag & Markets, and the USDA NIFA Organic Research and Extension Initiative grant numbers 2011-51300-30697 and 2020-51300-32379, Agriculture and Food Research Initiative Competitive Grants 2011-68002-30029 (Triticeae-CAP) and 2017-67007-25939 (Wheat-CAP) from the USDA National Institute of Food and Agriculture, the U.S. Wheat and Barley Scab Initiative and Hatch Project 945.

2021 Cornell Small Grains Regional Trial Entries

Soft White Winter Wheat Regional

	Entry Name	Years Tested	Mkt Class	Pedigree/Origin - Contact
1	Houser	43	SWW	B/N10/82A1/3/H-HR/YW4/GE//CI12658/Alaskan/3/Avon (Cornell)
2	Caledonia	31	SWW	Offtype selection out of Geneva (Cornell)
3	Cayuga	29	SWW	Reselection of NY262-37-10W (Cornell)
4	Medina	19	SWW	MD286-21/Harus
5	NY99056-161	11	SWW	NY85020-395/Pio25W33 (10+6)
6	NY11014-9-25-1319	5	SWW	10061-4 x Ava = 03179-10/Ava-4//Ava
7	NY12006-2-1-7	4	SWW	Medina x 03180-10
8	NY11014-9-60-1320	4	SWW	10061-4 x Ava = 03179-10/Ava-4//Ava
9	NY12030-1-1-3-1393	3	SWW	99021 x 94025
10	NY12006-2-1-1	3	SWW	05158-864 x 94052-6090B= Va97w-375ws/NY7388/Pio2737w/Harus
11	NY12512-1-6-17-1544	3	SWW	05158-848 x 07020-147 = Va97w-
12	NY12377-1-5-11	3	SWW	05158-848 x 94052-6090B= Va97w-375ws/NY7388/Pio2737w/Harus
13	NY12510-1-12-06	3	SWW	05158-864 x 94052-6090B= Va97w-375ws/NY7388/Pio2737w/Harus
14	NY12512-1-6-05	3	SWW	94052-6090B x 09095-22 =
15	NY12508-1-7-06-1534	3	SWW	94052-6090B x 09095-22 =
16	NY12457-1-8-18	3	SWW	09107-24 x 05158-848 = Pio25w41/Richland/NY7388/Madsen/Va97w-
17	NY12457-1-8-02	2	SWW	(Caledonia//Cayuga/Caledonia 4///Caledonia-1////Caledonia-7/////Caledonia-5-
18	NY12513-1-16-06-1545	2	SWW	09107-24 x 05158-864 = Pio25w41/Richland/NY7388/Madsen/Va97w-
19	NY12397-1-4-13	2	SWW	(Caledonia//Cayuga/Caledonia 4///Caledonia-1////Caledonia-7/////Caledonia-5-
20	NY12051-1-1-7-1404	2	SWW	Medina x 03180-10
21	NY12369-1-25-07-1497	2	SWW	05158-864 x 94052-6090B= Va97w-375ws/NY7388/Pio2737w/Harus
22	NY12398-2-16-07-03W-1580	1	SWW	09107-24 x 05158-848 = Pio25w41/Richland/NY7388/Madsen/Va97w-
23	NY12508-1-7-02-1533	1	SWW	84074(Ho/Su Mei)/Harus
24	NY09090-60-904	1	SWW	Pio25R39 x 03180-10
25	NY12398-2-16-09-09W-1584	1	SWW	09067-2-69 x OH06-180-57 = OH02-12686/Cal-Res-L/03179-10/OH06-180-
26	NY12006-2-1-1-1377	1	SWW	05158-840 x 94052-6090B= Va97w-375ws/NY7388/Pio2737w/Harus

Spring Oat Regional Trial

	Entry Name	Years Tested	Pedigree/Origin - Contact
1	OGLE	43	Brave//Tyler/Egdolon 23 (Astro/PI193027)
2	NEWDAK	**36**	ND810104=RL 3038/Goodland// Ogle
3	Corral	**15**	IL95-4774/IL95-8346
4	Steuben	**10**	SA050128/ND020965
5	SD111946	8	IL99-1338//ND011054/SD020835
6	Buff	6	SDSU - M. Caffe
7	IL12 - 9020	4	8024, 8044 (fill plots umopn17)
8	SD150015	3	SD081108//SD100940/SD060130
9	ND131603	3	ND080101/CRRSRR2
10	SD140327	3	SD080611//Shelby427/ND051306
11	ND130237	3	Furlong AC/ND080368
12	SD140741	3	SD070394/SD080611
13	OT3100	2	SA081656/Viviana
14	ND150797	2	ND090832/ND070499
15	BCO2003	2	Seed-link Inc.
16	BCO2004	2	Seed-link Inc.
17	BCO2005	2	Seed-link Inc.
18	ACGehl	2	AAFC/AAC W. Yan
19	OA1456-2N	2	AAFC/AAC W. Yan
20	Navaro	2	Semican
21	Fuego	2	Semican
22	Casino	2	Semican
23	14ANS01	2	Semican
24	15ANS06	2	Semican
25	Paul	2	NDSU
26	BCO2101	1	Seed-link Inc.
27	BCO2102	1	Seed-link Inc.
28	PGR-N13-13	1	SynAgri, Canada
29	SD170777	1	Sumo/SD110301

Spring Malting Barley Regional Trial

	Entry	Row No.	Years Tested	Pedigree/Origin - Contact
1	Quest	6	9	M122
2	**ND Genesis**	2	7	NDSU
3	AAC Synergy	2	6	Licensed to Syngenta
4	Newdale	2	6	Exp# TR258 is CDC Stratus//TR236/WM862-6
5	KWS Jessie	2	4	KWS
6	Explorer	2	4	Secobra (France)
7	Lightning (DH130910)	2	4	SHORT11-7 (TC6W265)/HERZ 29494/2991 (35)
8	Esma	2	3	Ackermann (Germany)
9	Eifel	2	3	Secobra (France)
10	SC132-1I (Expo)	2	3	Secobra (France)
11	CU127	2	3	Synergy/Pinnacle
12	CU198	2	3	Synergy/Tinka
13	KWS Willis (Non GN)	2	2	KWS
14	KWS Amadora	2	2	KWS
15	KWS Fantex	2	2	KWS
16	CH2909n-162-95	2	2	Ottawa Research and Development Center
17	CU36	2	2	Synergy/Genesis*
18	CU185	2	2	Synergy/Genesis*
19	CU223	2	2	Synergy/Genesis*
20	CU22	2	2	Synergy/Genesis
21	CU75	2	2	Synergy/Genesis
22	**CU29**	2	2	Synergy/Genesis
23	Excelsior Gold (CU31)	2	2	Synergy/Craft
24	CU53	2	2	Synergy/Craft
25	CU4	2	2	Synergy/Craft
26	CU20	2	2	Synergy/Craft
27	CU142	2	2	Synergy/Craft
28	CU110	2	2	Synergy/Craft
29	CU54	2	2	Synergy/Craft
30	CU193	2	2	Synergy/Craft
31	CU235	2	2	Synergy/Tinka
32	CU143	2	2	Synergy/Craft
33	CU162	2	2	Synergy/Pinnacle
34	CU107	2	2	Synergy/Genesis
35	BC Ellinor	2	2	LimaGrain
36	BC Leandra	2	2	LimaGrain
37	KWS Thalis	2	1	KWS
38	BC Lexy	2	1	Limagrain

Red Winter Wheat Regional

	Entry Name	Years Tested	Mkt Class	Pedigree/Origin - Contact
1	Otsego	16	SRW	Ohio State U. (OH751)
2	Erie (OH02-12686)	12	SRW	Foster/Hopewell//OH581/OH569
3	Pioneer 25R40	9	SRW	Corteva
4	NY11013-10-15-1312	5	SRW	10011-6 x Ava = OH02-12686/Ava-6//Ava
5	LW 2958	3	SRW	Local Seed Co. - Charlie Robinette
6	NY12300-1-6-15	3	SRW	09067-2-4 x Va08w-176 = OH02-12686/Cal-Res-L/03179
7	NY12299-1-3-14	3	SRW	09067-2-4 x Va05w-251 = OH02-12686/Cal-Res-L/03179
8	LW2068 (LWX20A)	2	SRW	Local Seed Co. - Charlie Robinette
9	Liberty 5658	2	SRW	VCIA
10	NY12300-1-6-07-1436	2	SRW	09067-2-4 x Va08w-176 = OH02-12686/Cal-Res-L/03179
11	NYDD1543-06R-1652	2	SRW	VA10W-21/GERMPLASM 11-3-10/SYNGENTA W1104
12	NY12325-1-10-12-1476	2	SRW	09063-11-64 x 09068-5-19 = OH02-12686/NY8138/03180
13	NY12298-1-8-17-1430	2	SRW	09067-2-4 x Shirley = Erie/Cal-Res-L/03179-10(fhb1)/Shirl
14	25R61	1	SRW	Corteva
15	SW65SR	1	SRW	Seedway, Hall NY
16	SW51SR	1	SRW	Seedway, Hall NY
17	LW2169	1	SRW	Local Seed Co. - Charlie Robinette
18	LW2148	1	SRW	Local Seed Co. - Charlie Robinette
19	KWS340	1	SRW	KWS - James Gillum
20	KWS361	1	SRW	KWS - James Gillum
21	KWS380	1	SRW	KWS - James Gillum
22	NY12325-1-10-18-1477	1	SRW	09063-11-64 x 09068-5-19 = OH02-12686/NY8138/03180
23	NY12351-1-14-20-1484	1	SRW	09068-5-19 x OH06-180-57 = OH02-12686/Cal-Res-L/03
24	NY12353-1-12-18-1485	1	SRW	09068-5-19 x Shirley = OH02-12686/Cal-Res-L/03180-10
25	OH12-317-57-1413	1	SRW	SHIRLEY//PIO25R47/IL99-15867
26	NY12302-2-14-01-1441	1	SRW	09067-2-4 x 09067-2-48R = OH02-12686/Cal-Res-
27	NYIL04-8445R-1654	1	SRW	94-1653(Mo W12213/87-3235-1(Cardinal/Caldwell))/97-
28	NY12308-1-18-09-1449	1	SRW	09067-2-69 x 09063-11-64 = OH02-12686/Cal-Res-
29	NY05152-821	1	SRW	NY7388xPio25R37
30	NY12302-2-14-08-1442	1	SRW	09067-2-4 x 09067-2-48R = OH02-12686/Cal-Res-

Winter Malting Barley Regional Trial

	Entry	Years Tested	Row No.	Breeder
1	Charles	9	2	Check
2	Saturn	9	6	Michael Götz
3	KWS Scala	8	2	KWS
4	SY Tepee (209-66)	8	2	MaltEurope
5	Endeavor	8	2	USDA-ARS Aberdeen
6	AC 07/041/8 (Flavia)	7	2	Ackermann Saatzucht GmbH & Co. KG
7	KWS Somerset (KW2-237	6	2	KWS - James Gillum
8	KWS Donau (KWS2-430)	6	2	KWS - James Gillum
9	Lightning (Fac)	5	2	
10	LCS Calypso	4	2	Limagrain
11	LCS Violetta	4	2	Limagrain
12	DH131055 (Fac)	4	2	OR818/KW2-042
13	DH131738 (Fac)	4	2	OR910/05-5401/05
14	DH130935 (Fac)	4	2	OR818/KW2-042
15	Buck	4	6	Strider/Doyce
16	10.1618	4	6	Fridericus x Maja/Legacy//Maja/3/Doyce
17	AC11/341/28	3	2	Ackermann Saatzucht GmbH & Co. KG
18	KWS FARO	2	6	KWS
19	DH140963	2	2	04_028_36/Archer
20	BC Clemetine	1	2	LimaGrain
21	BC Fay	1	2	LimaGrain
22	KWS Joyau	1	6	KWS
23	DH141132	1	2	OSU
24	KWS Orbit	1	6	KWS

2021 Soft White Winter Wheat Summaries - Cornell University

		Grain Yield (kg/h)						Test	Lodg.	Head	Winter		Preharvest			Powd.	FHB	FHB	FHB		
		Regional Locations						Weight	Score	Date	Surv	Height	Sprouting		WSSM	Mildew	Incid.	Sev.	Index		DON
	Entry	Ith-Sny	Ith-Ket	SenCo	MonCo	Mean	Rank	kg/hl	0-9	2 Loc	%	cm	0-9	Rank	0-9	0-9	%	%	%	Rank	ppm
1	Houser	N	3961	1419	5378	3586	26	59.6	8.0	6/2	100	114	5.7	24	1.3	2.0	NA	NA	NA	NA	NA
2	Caledonia	O	4097	3719	5064	4293	20	60.4	0.0	6/2	97	93	7.8	26	1.3	1.5	66	37	24.3	24	47
3	Cayuga		3858	2785	4960	3868	24	69.0	5.5	6/4	98	123	2.0	5	1.0	2.3	NA	NA	NA	NA	NA
4	Medina	D	4335	3018	5865	4406	16	65.8	0.0	6/3	100	108	3.4	14	1.0	2.0	46	36	16.6	22	19
5	NY99056-161	A	4871	4002	6443	5105	3	63.5	0.5	6/3	100	97	4.5	20	0.3	1.0	26	21	6.6	7	39
6	NY11014-9-25-1319	T	4487	2475	6167	4376	18	65.4	4.0	6/2	100	105	3.3	13	1.3	1.3	43	21	9.0	15	23
7	NY12006-2-1-7	A	4323	2896	6282	4500	12	67.6	1.5	6/4	98	104	1.0	1	1.3	1.5	43	20	7.9	11	24
8	NY11014-9-60-1320		4986	2452	5126	4188	22	64.1	5.0	6/1	100	106	5.2	23	3.3	1.3	29	16	4.4	4	24
9	NY12030-1-1-3-1393		4710	2731	5520	4321	19	63.4	5.0	6/1	100	96	4.2	19	1.0	0.8	49	22	11.3	17	34
10	NY12512-1-6-17-1544		4755	3106	6239	4700	10	67.0	0.0	6/3	98	98	2.3	6	2.3	1.8	36	14	4.9	5	33
11	NY12377-1-5-11		5651	3380	6098	5043	4	69.7	0.0	6/2	97	89	1.5	4	0.3	0.8	69	13	8.8	14	33
12	NY12510-1-12-06		5240	3266	5858	4788	7	66.0	3.0	5/31	99	88	3.7	16	0.7	1.8	70	20	14.1	20	39
13	NY12512-1-6-05		3698	3264	6276	4413	15	66.5	0.0	6/3	99	98	3.8	17	1.3	2.0	30	11	3.3	2	34
14	NY12457-1-8-18		5266	1380	5449	4032	23	65.4	4.5	6/2	99	98	2.3	7	2.3	0.8	50	15	7.4	8	32
15	NY12457-1-8-02		5111	2737	6322	4723	9	65.4	5.0	6/1	99	94	3.1	12	2.3	1.5	49	15	7.9	10	34
16	NY12397-1-4-13		5113	2614	6520	4749	8	68.2	3.0	5/30	99	84	2.5	8	0.7	0.0	78	17	12.9	19	31
17	NY12051-1-1-7-1404		4367	3083	5313	4254	21	64.3	0.0	6/5	100	100	6.2	25	6.7	1.8	40	19	8.1	12	36
18	NY12398-2-16-07-03W-1580		4824	4815	6487	5375	1	69.8	0.0	6/2	100	84	2.6	10	5.7	2.0	40	15	6.1	6	41
19	NY09090-60-904		4634	3040	5619	4431	14	65.4	0.0	6/2	100	103	1.1	2	2.3	2.5	61	31	18.6	23	30
20	NY12006-2-1-1-1377		4687	2589	5915	4397	17	64.6	2.0	6/3	98	98	2.8	11	2.0	2.3	49	22	10.4	16	27
21	NY12512-1-6-05-1542		4985	4667	6449	5367	2	66.1	0.0	6/2	100	96	4.8	22	3.0	2.0	44	19	8.1	13	33
22	NY12397-1-4-13-1512		5263	2545	6263	4690	11	67.6	6.5	5/31	97	83	3.6	15	2.0	0.0	76	21	16.0	21	39
23	NY7388-1551		4181	1712	5591	3828	25	66.5	7.0	6/3	98	104	1.3	3	2.0	2.0	38	8	3.0	1	21
24	NY12007-2-4-13-1381		4309	4933	5814	5019	5	65.3	0.0	5/31	100	99	4.1	18	4.0	2.0	35	11	4.0	3	34
25	NY12311-1-30-10-1452		5518	3247	6194	4987	6	64.8	0.0	6/1	98	91	4.5	21	1.0	0.5	38	21	7.7	9	34
26	NY12508-1-7-15-1536		4973	2583	5934	4497	13	67.1	6.5	5/30	98	90	2.5	9	1.3	2.3	80	14	11.4	18	36
	Mean		4700	3018	5890	4536		65.7	2.6	6/2	99	98	3.5		2.0	1.5	49	19	9.7		32
	CV		10.9	22.6	8.6																

Cumulative Summary

		Grain Yield										Lodging		Head	FHB	FHB	FHB	DON	Preharv	Height	Winter
		4 Year		3 Year		2 Year		Test Weight				0-9	0-9	Date	%Inc	%Sev	Index	ppm	Sprout	cm	Surv
	Entry	kg/h	b/a	kg/h	b/a	kg/h	b/a	4 Yr	lb/b	2 Yr	lb/b	4 Yr	2 Yr	2 Yr	2 Yr	2 Yr	2 Yr	2 Yr	2 Yr	2 Yr	2 Yr
1	Houser	4951	74	4613	69	4767	71	69.2	54.5	66.8	52.6	5.0	6.8	6/3	NA	NA	NA	NA	6.7	108	99
2	Caledonia	5091	76	4779	71	5196	77	69.3	54.6	67.6	53.3	0.8	1.5	6/3	76	49	39.1	45.1	7.2	89	97
3	Cayuga	4542	68	4122	61	4429	66	73.1	57.5	73.3	57.7	3.8	5.9	6/4	NA	NA	NA	NA	2.1	114	97
4	Medina	5093	76	4749	71	5206	77	70.7	55.6	70.1	55.2	2.0	3.2	6/3	58	32	18.2	19.3	4.1	102	99
5	NY99056-161	5300	79	5027	75	5293	79	70.9	55.8	69.2	54.4	1.4	1.3	6/4	44	17	7.8	27.1	5.2	91	99
6	NY11014-9-25-1319	5337	79	4974	74	5264	78	71.2	56.0	70.1	55.2	2.2	3.8	6/3	53	18	9.1	18.0	4.5	98	99
7	NY12006-2-1-7	5253	78	4932	73	5248	78	71.8	56.5	71.3	56.1	2.2	2.9	6/5	59	26	16.2	15.7	2.5	98	97
8	NY11014-9-60-1320	5113	76	4790	71	4935	73	70.8	55.8	69.2	54.5	3.1	6.0	6/2	54	22	14.2	19.7	5.5	100	99
9	NY12030-1-1-3-1393			4868	72	5042	75			69.1	54.4		5.0	6/2	66	28	20.0	27.3	3.9	91	99
10	NY12512-1-6-17-1544			4878	73	5147	77			71.4	56.2		1.7	6/4	55	14	7.6	24.0	2.8	91	99
11	NY12377-1-5-11			4930	73	5263	78			73.2	57.6		1.8	6/4	84	26	23.4	31.9	2.2	84	98
12	NY12510-1-12-06			5036	75	5342	79			71.1	56.0		3.5	6/1	80	27	22.3	30.8	3.8	85	99
13	NY12512-1-6-05			4960	74	5184	77			70.6	55.6		0.8	6/3	61	18	13.2	25.9	4.1	91	98
14	NY12457-1-8-18			4738	70	4935	73			69.9	55.1		4.6	6/3	55	16	8.8	20.7	3.1	92	99
15	NY12457-1-8-02			5003	74	5309	79			69.7	54.9		4.3	6/2	53	21	11.7	22.3	4.1	88	98
16	NY12397-1-4-13			4980	74	5265	78			71.7	56.4		3.5	5/31	76	20	15.1	23.2	3.1	79	98
17	NY12051-1-1-7-1404					4983	74			69.0	54.3		1.3	6/5	50	32	17.6	26.2	5.6	93	99
18	NY12398-2-16-07-03W-1580					5485	82			72.9	57.4		0.3	6/4	62	22	16.3	26.2	3.4	80	99
19	NY09090-60-904					5153	77			70.6	55.6		0.7	6/3	77	46	37.6	33.5	2.9	94	99
20	NY12006-2-1-1-1377					5295	79			69.4	54.7		3.2	6/4	71	32	24.9	21.0	3.4	92	96
21	NY12512-1-6-05-1542					5637	84			70.3	55.4		2.3	6/3	66	20	13.7	21.8	4.1	91	98

M.E. Sorrells, D. Benscher, J. Tanaka, Amy Fox - Department of Plant Breeding & Genetics, Cornell University

2021 Red Winter Wheat Summaries - Cornell University

		Grain Yield (kg/h)						Test			Preharvest		Winter			FHB				
		Regional Locations						Weight	Lodg.	Head	Sprouting		Surv.	Height	WSSMV	Incid.	Sev.	Index		DON
	Entry	Ith-Sny	Ith-Ket	SenCo	MonCo	Mean	Rank	kg/hl	0-9	Date	0-9	Rank	%	cm	0-9	%	%		Rank	ppm
1	Otsego	5815	5298	2693	5551	4839	30	70.4	8.0	6/3	1.1	16	99	101	1.3	NA	NA	NA	NA	NA
2	Erie	5920	5838	2956	6548	5315	21	68.0	8.0	6/5	3.8	30	99	98	1.7	45	18	8	10	10.7
3	Pioneer 25R40	7186	5703	3903	6356	5787	7	70.4	2.5	6/3	2.6	27	99	81	7.0	83	22	18	27	37
4	NY11013-10-15-1312	5812	5391	3333	6108	5161	24	69.4	9.0	6/4	1.3	17	98	105	1.3	31	15	5	5	11
5	LW 2958	6633	5671	5037	5542	5721	8	71.8	5.0	6/3	0.0	1	100	93	1.0	48	14	7	7	9
6	NY12300-1-6-15	5790	5863	2515	5970	5035	28	71.4	6.0	6/4	0.6	12	99	86	1.7	64	15	9	13	16
7	NY12299-1-3-14	6561	5707	3220	6357	5461	16	68.1	7.5	6/3	1.6	23	100	83	1.3	48	16	8	9	13
8	LW2068 (LWX20A)	6739	5911	4437	6176	5816	6	68.3	3.5	6/3	2.3	26	99	86	1.3	73	14	10	15	19
9	Liberty 5658	5886	5156	4167	4944	5038	27	70.9	3.0	6/1	2.7	28	98	89	2.7	90	17	16	24	22
10	NY12300-1-6-07-1436	6514	5760	3676	6718	5667	12	72.7	7.5	6/4	1.3	18	99	84	1.7	65	24	15	23	19
11	NYDD1543-06R-1652	6059	5140	2576	5987	4941	29	71.4	5.0	6/2	0.5	9	99	88	7.7	49	8	4	3	15
12	NY12325-1-10-12-1476	6249	5871	3115	6399	5409	18	70.4	2.5	6/6	1.4	21	99	98	0.7	44	32	14	21	14
13	NY12298-1-8-17-1430	5508	5386	3498	6218	5152	25	70.4	4.0	6/3	1.4	19	99	88	5.7	79	17	13	18	16
14	Pioneer 25R61	6812	5668	4188	6048	5679	11	69.1	2.0	6/3	2.1	25	99	88	2.0	68	12	8	11	9
15	SW65SR	6805	5973	4717	6821	6079	2	68.9	6.5	6/2	1.4	20	98	88	1.7	89	19	17	26	22
16	SW51SR	6208	5697	3692	5678	5319	20	70.4	7.0	6/4	0.4	4	96	90	8.0	56	11	6	6	15
17	LW2169	6982	5748	4909	6815	6113	1	69.9	2.0	6/3	0.6	10	99	85	1.7	81	13	11	16	22
18	LW2148	6570	5790	3508	6634	5625	13	70.1	6.5	6/3	0.5	8	98	88	8.0	68	13	9	12	13
19	KWS340	7315	5758	4918	6248	6060	3	70.7	8.0	6/4	0.1	2	100	86	0.7	73	29	21	28	16
20	KWS361	6450	5041	3558	5735	5196	23	70.4	9.0	6/3	0.6	13	99	96	7.0	41	10	4	4	17
21	KWS380	6412	5963	4236	6781	5848	5	70.5	8.0	6/2	1.7	24	97	89	1.7	70	14	10	14	19
22	NY12325-1-10-18-1477	6864	5704	3131	6675	5594	14	71.6	6.0	6/6	1.5	22	96	99	0.3	46	32	15	22	15
23	NY12351-1-14-20-1484	6712	5600	4561	6764	5909	4	70.5	6.5	6/4	3.2	29	98	88	1.0	46	32	14	20	14
24	NY12353-1-12-18-1485	6037	5298	3638	6470	5361	19	69.4	8.5	6/4	0.6	11	99	91	5.7	71	39	29	29	20
25	OH12-317-57-1413	6858	5922	4398	5607	5696	10	72.4	5.5	6/3	0.4	6	97	95	6.7	81	17	14	19	12
26	NY12302-2-14-01-1441	5888	5282	3726	7243	5535	15	69.7	4.0	6/6	0.4	5	99	91	1.0	39	9	4	2	22
27	NYIL04-8445R-1654	6700	5730	4145	6304	5720	9	71.7	8.0	6/2	0.7	14	99	94	6.0	81	20	16	25	15
28	NY12308-1-18-09-1449	5607	5520	4542	6035	5426	17	70.5	8.0	6/5	0.2	3	97	103	1.0	44	24	11	17	17
29	NY05152-821	5733	5217	3247	6375	5143	26	70.5	8.0	6/4	0.4	7	99	103	1.3	53	13	8	8	18
30	NY12302-2-14-08-1442	5595	5583	3167	6829	5294	22	69.0	6.5	6/5	0.9	15	100	98	1.7	29	12	3	1	14
	Mean	6341	5606	3780	6265	5498		70.3	6.1	6/3	1.2		98	92	3.0	60	18	11.3		17
	CV	7.3	5.1	19.6	6.9															

Cumulative Summary

		Grain Yield																		
		5 Year		3 Year		2 Year		Test Wt(2Yr)		Lodg.	Height	Head	Winter	Preharv Sprout	WSSMV	FHB Incid.	FHB Sev.	FHB Index	DON
	Entry	kg/h	b/a	kg/h	b/a	kg/h	b/a	kg/hl	lb/b	0-9 2 Yr	cm 2 Yr	Date 2 Yr	Surv. 2 Yr	0-9 2 Yr	Rating 2Yr	% 2 Yr	% 2 Yr	2 Yr	ppm 2 Yr
1	Otsego	5212	77	4879	73	5003	74	72.7	56.8	4.0	96	6/1	99	1.2	1.5	NA	NA	NA	NA
2	Erie	5846	87	5411	80	5681	84	71.8	56.1	4.0	89	6/4	98	3.9	1.5	64	23	16.7	9.7
3	Pioneer 25R40	6373	95	5905	88	6028	90	72.8	56.9	1.3	79	6/2	97	2.3	7.3	91	28	26.3	36.8
4	NY11013-10-15-1312	5890	88	5442	81	5554	83	72.5	56.7	4.5	100	6/4	98	0.9	1.7	44	20	9.6	9.3
5	LW 2958			5578	83	5818	87	73.8	57.7	2.5	88	6/2	99	0.1	1.2	69	18	13.4	12.3
6	NY12300-1-6-15			5353	80	5462	81	74.1	57.9	3.0	83	6/3	99	0.4	1.3	69	23	16.7	15.3
7	NY12299-1-3-14			5442	81	5750	86	71.2	55.6	3.8	79	6/4	100	1.3	1.5	64	18	11.8	11.3
8	LW2068 (LWX20A)					5697	85	71.3	55.7	1.8	84	6/3	98	3.4	2.2	84	19	16.2	20.8
9	Liberty 5658					5442	81	73.4	57.4	1.5	83	6/3	98	1.5	2.0	89	22	19.8	24.8
10	NY12300-1-6-07-1436					5968	89	75.1	58.7	3.8	81	6/4	98	1.2	1.2	75	27	20.8	16.5
11	NYDD1543-06R-1652					5146	77	75.0	58.6	2.5	86	6/4	98	0.5	7.7	54	10	5.5	11.6
12	NY12325-1-10-12-1476					5731	85	72.4	56.6	1.3	91	6/6	99	1.0	1.0	61	40	26.9	15.3
13	NY12298-1-8-17-1430					5487	82	73.1	57.1	2.0	84	6/5	98	1.0	5.7	78	18	13.9	13.8

Mark E. Sorrells, David Benscher, James Tanaka, Jenna Rice - Department of Plant Breeding & Genetics, Cornell University

2021 Winter Malting Barley Regional Trial Summary - Cornell University

			Grain Yield (kg/h)																												
			Regional Locations							Test	Weight	Lodg.	Height	Head	Wint	FHB	FHB	FHB		FHB	PHS		Leaf	Kerne	on	Malt	Barley		Beta		All Malt
	Entry	Row	Ith-Sny	Ith-Ket	SenCo	MonCo	Mean	b/a	Rank	kg/hl	Rank	0-9	cm	Date	Surv	Inc	Sev	Index	FHB	DON	Score	Scald	Rust	Wt	6/64"	Ext	Protein	DP	Glucar	FAN	Qual
																												ASBC			
1	Charles	2	1407	3233	3059	1286	2246	42	24	52.2	24	5.8	88	5/25	87	63	13	8	2	10	6.0	4.2	5.3	34	98	82	10	54	44	255	36
2	Saturn	6	5394	5050	7010	2259	4928	92	4	56.7	20	3.8	94	5/23	93	83	21	18	18	15	0.0	0.3	1.3	37	97	*79.3	8.9	90	*536	125	N/A
3	KWS Scala	2	4412	4396	3972	1683	3616	67	19	57.9	19	1.9	84	5/26	90	82	21	17	17	11	0.5	3.5	0.0	44	100	84	8.9	117	47	166	44
4	SY Tepee (209-66)	2	4335	3968	5697	1916	3979	74	15	58.5	15	2.3	92	5/25	93	80	19	15	14	12	0.3	0.2	0.0	40	98	83	8.5	123	32	180	40
5	Endeavor	2	1910	3952	3948	1600	2852	53	22	56.0	23	5.6	100	5/26	87	73	20	15	13	8	6.2	0.8	3.7	33	96	83	8.3	54	66	241	31
6	AC 07/041/8 (Flavia)	2	4385	4208	5480	1963	4009	75	14	60.2	7	2.3	86	5/24	93	85	20	17	15	13	0.5	1.5	3.3	41	99	83	8.6	94	73	135	43
7	KWS Somerset (KW2-237	2	5078	4423	5263	689	3863	72	16	58.4	16	2.7	98	5/27	93	68	14	10	4	7	0.5	0.0	0.0	43	100	82	8.5	78	68	149	40
8	KWS Donau (KWS2-430)	2	5227	4517	5672	2725	4535	84	5	60.0	8	1.9	93	5/27	92	83	16	13	10	9	1.4	0.7	0.0	46	100	82	9.4	101	43	151	50
9	Lightning (DH130910 Fac)	2	3550	3731	5586	1534	3600	67	20	60.3	6	2.3	96	5/24	93	78	13	10	6	8	0.0	0.0	0.0	39	99	82	10.0	119	25	210	44
10	LCS Calypso	2	4457	4569	5772	1384	4045	75	12	58.1	18	3.0	102	5/24	92	55	11	6	1	6	0.3	0.0	0.0	42	98	83	9.7	116	162	153	38
11	LCS Violetta	2	5244	4583	5907	1334	4267	79	10	60.3	5	3.1	95	5/23	95	65	15	10	3	12	0.2	0.7	0.0	41	99	83	9.4	141	88	174	40
12	DH131055 (Fac)	2	3677	4053	5628	1379	3684	68	18	59.2	13	1.9	97	5/26	92	67	15	10	5	6	0.0	0.0	1.0	45	99	81	9.7	105	63	217	39
13	DH131738 (Fac)	2	5542	4291	5841	1936	4402	82	7	61.9	2	1.7	94	5/23	93	60	23	13	9	12	0.2	0.5	1.3	43	100	83	9.7	109	72	158	48
14	DH130935 (Fac)	2	4719	4372	4775	2309	4044	75	13	59.5	11	2.0	100	5/22	93	70	16	12	8	10	1.4	0.5	1.0	42	99	82	9.1	114	140	148	40
15	Buck	6	2105	3803	3444	1376	2682	50	23	63.5	1	5.7	96	5/26	80	100	58	58	24	24	0.0	0.3	4.3	32	*72.5	*87.1	9.1	60	*662	131	N/A
16	10.1618	6	3050	4446	4884	1669	3512	65	21	60.7	3	4.7	93	5/21	82	98	45	45	23	18	0.0	0.0	2.0	31	93	*85.5	9.4	88	*684	124	23
17	AC11/341/28	2	5006	4710	5659	2025	4350	81	9	58.7	14	3.2	90	5/25	95	60	18	11	7	11	0.0	0.7	1.0	40	99	82	8.8	86	68	141	46
18	KWS FARO	6	7081	4993	5153	3519	5186	96	1	59.3	12	1.3	91	5/22	93	95	32	31	22	18	0.1	0.3	0.0	35	99	82	8.9	38	108	163	N/A
19	DH140963	2	4826	4522	4792	2484	4156	77	11	56.3	22	1.5	93	5/27	95	88	22	19	19	17	1.5	0.0	0.0	45	99	83	8.7	81	181	166	36
20	BC Clemetine	2	5735	4663	5283	2069	4438	82	6	60.6	4	1.2	96	5/24	90	87	20	17	16	16	0.5	0.3	0.0								
21	BC Fay	2	5239	4644	5021	2557	4365	81	8	58.4	17	2.3	94	5/26	93	88	17	15	12	10	0.1	0.0	0.7								
22	KWS Joyau	6	6613	5492	5777	1898	4945	92	3	59.8	9	1.6	92	5/22	93	90	31	28	21	19	0.1	0.0	0.0								
23	DH141132	2	4440	4574	5003	1154	3793	70	17	56.6	21	1.5	96	5/26	95	80	17	14	11	13	0.2	0.3	1.3								
24	KWS Orbit	6	6843	5080	5564	3157	5161	96	2	59.6	10	1.5	104	5/24	93	95	27	26	20	14	0.0	0.2	0.7								
	Mean		4595	4428	5175	1913	4028	75		58.9		2.7	94	5/24	92	79	22	18		12	0.8	0.6	1.1								
	CV		13.0	7.3	19.2	33.8																									

* feed barley °*Naked Barley

Cumulative Summary

			Grain Yield						Test		Test		Lodg	Height	Head	Wint	FHB	FHB	FHB	FHB	PHS	Spot		Kerne	on	Malt	Barley		Beta		All Malt
			4 Year		3 Year		2 Year		Wt(3yr)		Wt(2yr)						Inc	Sev	Index	DON	Score	Blotch	Scald	Wt	6/64"	Ext	Protein	DP	Glucar	FAN	Qual
	Entry	Row	kg/h	b/a	kg/h	b/a	kg/h	b/a	kg/hl	lb/b	kg/hl	lb/b	2 Yr	2 Yr	2 Yr	2 Yr	2 Yr	2 Yr	2 Yr	1 Yr	2 Yr	2 Yr	2 Yr	2 Yr	2 Yr	2 Yr	2 Yr	ASBC	2 Yr	2 Yr	2 Yr
1	Charles	2	3065	57	2966	55	3272	61	54.7	42.7	54.7	42.7	7.0	84	5/25	89	65	16	11	10.2	5.5	0.0	5.8	31	89	81	10.4	93	128	274	25
2	Saturn	6	5740	107	5642	105	5816	108	58.9	46.0	58.4	45.6	3.6	93	5/24	92	88	26	23	15.0	0.6	1.3	0.6	NA	NA	NA	NA	NA	NA	NA	NA
3	KWS Scala	2	4480	83	4351	81	4543	84	59.5	46.5	59.3	46.3	3.8	85	5/25	89	79	21	17	11.1	0.6	0.8	3.1	41	99	82	9.7	148	57	189	38
4	SY Tepee (209-66)	2	4767	89	4718	88	4744	88	61.6	48.1	60.6	47.3	2.9	91	5/25	91	73	16	12	12.1	0.7	1.5	0.1	38	95	82	9.5	161	51	211	37
5	Endeavor	2	4195	78	4052	75	4059	75	60.1	46.9	58.9	46.0	4.5	95	5/26	85	57	16	10	7.7	6.1	1.7	1.8	33	86	82	9.8	97	72	257	26
6	AC 07/041/8 (Flavia)	2	4833	90	4811	89	4884	91	61.8	48.3	61.1	47.7	3.4	85	5/25	92	76	17	14	12.7	0.7	1.8	1.2	38	97	82	10.0	125	120	160	38
7	KWS Somerset (KW2-237	2	4718	88	4667	87	4859	90	60.9	47.6	60.3	47.1	2.5	96	5/27	92	58	13	8	7.0	0.6	1.3	0.9	41	98	81	9.6	116	66	172	34
8	KWS Donau (KWS2-430)	2	4998	93	4919	91	5441	101	61.3	47.9	61.9	48.4	1.8	91	5/27	92	72	15	11	8.8	1.3	1.4	0.3	43	99	81	10.6	132	66	159	43
9	Lightning (DH130910 Fac)	2	4647	86	4562	85	4725	88	63.1	49.3	63.0	49.2	2.8	94	5/25	94	53	11	6	8.0	0.4	1.9	1.2	38	94	81	10.7	122	79	214	31
10	LCS Calypso	2	5082	94	4918	91	5107	95	61.7	48.2	60.5	47.2	3.2	100	5/25	93	41	10	4	6.3	0.5	2.5	1.2	39	93	82	10.5	135	167	165	36
11	LCS Violetta	2	4678	87	4574	85	4740	88	62.7	49.0	62.3	48.7	3.3	91	5/23	93	58	15	9	11.7	0.7	1.2	0.3	39	97	82	10.6	167	161	201	29
12	DH131055 (Fac)	2	4630	86	4522	84	4383	81	62.5	48.8	61.8	48.3	1.6	97	5/27	94	39	11	5	5.6	0.5	1.1	0.0	42	93	80	10.4	108	131	217	33
13	DH131738 (Fac)	2	4915	91	4876	91	5046	94	63.9	49.9	63.7	49.7	1.7	89	5/24	93	54	19	10	11.9	0.6	1.9	0.8	41	98	82	10.4	117	99	180	41
14	DH130935 (Fac)	2	4860	90	4718	88	4918	91	62.6	48.9	61.8	48.2	2.4	96	5/23	93	55	12	8	10.1	1.2	1.5	0.3	40	95	81	10.0	117	237	164	37
15	Buck	6	3790	70	3365	63	3510	65	70.0	54.7	69.3	54.1	3.2	94	5/27	59	96	52	51	23.6	0.4	1.0	0.8	NA	NA	NA	NA	NA	NA	NA	NA
16	10.1618	6	4433	82	4160	77	4479	83	65.3	51.0	64.9	50.7	4.0	90	5/23	85	98	43	42	18.3	0.5	2.0	0.3	NA	NA	NA	NA	NA	NA	NA	NA
17	AC11/341/28	2			5194	97	5187	96	61.7	48.2	61.2	47.8	3.7	90	5/25	95	61	17	10	11.4	0.6	0.7	0.8	38	91	81	9.8	93	151	164	36
18	KWS FARO	6					6110	114			61.6	48.1	0.9	90	5/24	93	98	32	32	17.6	0.3	1.3	0.2	34	96	82	9.5	87	177	181	NA
19	DH140963	2					4899	91			58.9	46.0	1.6	91	5/27	94	80	21	17	17.2	1.9	0.7	0.0	42	98	82	9.8	102	224	182	29

Mark E. Sorrells, David Benscher, James Tanaka, Amy Fox - Department of Plant Breeding & Genetics, Cornell University

Acknowledgement of Funding Sources: New York State Ag & Markets, U.S. Wheat and Barley Scab Initiative, Genesee Valley Regional Market Authority

2021 Hybrid Winter Rye Regional Trial - Cornell University

		Grain Yield (kg/h)						Test Weight		Lodging Score	Height	Winter Surv.	Head
		Regional Locations											
	Entry	Ith-Sny	Ith-Ket	SenCo	MonCo	Mean	Rank	kg/hl	Rank	0-9	cm	%	Date
1	Brasetto (180 k/m2)	5032	5150	5574	4407	5041	8	66.0	11	3.4	148	94	5/23
2	Brasetto (200 k/m2)	6325	5064	4407	5268	5266	7	66.2	9	3.8	138	96	5/23
3	Brasetto (250 k/m2)	4919	5372	5144	5725	5290	6	66.2	10	4.3	143	96	5/23
4	Danko	4756	3974	3574	4006	4078	10	67.7	1	2.6	160	88	5/21
5	AC Hazlet	2836	3415	3196	4119	3392	11	66.3	7	3.9	158	90	5/23
6	Erie (wheat ck)	2870	3815	2176	4093	3238	12	62.6	12	2.0	98	98	6/3
7	KWS Serafino	6615	5466	4872	5737	5672	3	66.7	5	2.3	140	95	5/24
8	KWS Tayo	7075	5994	5029	5728	5956	1	66.3	8	2.2	145	91	5/23
9	KWS Bono	6458	5343	4728	5612	5535	5	67.7	2	3.0	143	94	5/23
10	KWS Trebiano	4907	6011	3861	5115	4973	9	66.5	6	4.0	153	93	5/23
11	KWS Serafino-untreated	6923	5042	4923	5562	5613	4	67.3	3	2.1	145	95	5/23
12	KWS Receptor	6924	5587	5011	5284	5702	2	67.0	4	4.0	143	93	5/24
	Mean	5470	5019	4374	5055	4980		66.4		3.1	143	93	
	CV	13.8	9.4	13.0	21.2								

Cumulative Summary		Grain Yield						Test Weight		Lodging	Head	Height	Winter
		7 Year		4 Year		3 Year		3 Year		0-9	Date	cm	Surv.
	Entry	kg/h	b/a	kg/h	b/a	kg/h	b/a	kg/hl	lb/b	3 Yr	2 Yr	3 Yr	3 Yr
1	Brasetto (180 k/m2)	5708	91	5020	80	4486	71	65.6	52.5	1.6	5/25	132	76
2	Brasetto (200 k/m2)	5680	91	5156	82	4657	74	65.8	52.7	1.8	5/26	125	78
3	Brasetto (250 k/m2)	5738	91	5191	83	4725	75	65.5	52.4	1.9	5/26	130	78
4	Danko	4566	73	4297	68	3926	63	67.4	53.9	1.0	5/23	146	74
5	AC Hazlet	4115	61	3752	56	3251	48	66.2	53.0	1.7	5/26	148	71
6	Erie (wheat ck)	4429	71	4056	65	3765	60	67.3	53.8	0.8	6/4	91	87
7	KWS Serafino			5509	88	5157	82	66.8	53.4	1.1	5/26	128	77
8	KWS Tayo			6030	96	5634	90	66.4	53.1	1.3	5/26	131	78
9	KWS Bono					5111	81	67.6	54.1	1.3	5/26	132	77
10	KWS Trebiano					5272	84	66.8	53.5	1.8	5/25	140	81

Mark E. Sorrells, David Benscher, James Tanaka, Amy Fox - Department of Plant Breeding & Genetics, Cornell University

2021 Spring Malting Barley Regional Summary - Cornell University

				Grain Yield (kg/h)						Test			Head	Preharv		FHB	FHB	FHB		Kernel on		Malt	Barley		Beta		All Malt
				Regional Locations						Weight		Lodg		Height	Sprout	Inc	Sev	Index		DON	Wt.	6/64	Extract	Protein	DP	Glucan	FAN	Quality
	Entry	Row#	Class	Ith-Sny	Ith-Ket	SteCo	Ith-He	Mean	Rank	Kg/hl	Rank	0-9	Date	cm	0-9	%	%	%	Rank	ppm	(mg)	%	%	%	ASBC	ppm	ppm	Score
1	Quest	6	Malt	3398	2044	2931	2341	2678	36	57.2	17	3.0	6/10	71	1.0	8	52	13	6.4	8	5.2	33.3	93.9	82.0	10.2	135	270	224	NA
2	ND Genesis	2	Malt	3405	2171	3726	2755	3014	29	57.0	18	2.3	6/10	66	2.4	26	85	17	14.7	32	7.3	40.8	97.0	82.7	9.7	81	125	199	34
3	AAC Synergy	2	Malt	4161	2244	4874	2501	3445	6	56.4	20	0.9	6/11	63	4.4	38	58	14	8.3	18	12.3	39.5	96.8	83.9	9.2	83	72	245	33
4	Newdale	2	Malt	3808	2249	4321	2617	3249	19	56.4	22	1.8	6/14	59	2.9	30	50	22	15.4	33	7.5	35.0	89.3	81.6	9.4	90	41	244	29
5	KWS Jessie	2	Malt	3758	2158	4487	1805	3052	28	54.3	36	1.7	6/11	53	0.3	2	53	13	6.9	11	12.9	35.4	97.2	83.2	9.5	71	12	232	31
6	Explorer	2	Malt	3955	2230	4183	3273	3410	8	57.7	12	1.7	6/11	53	0.2	1	38	11	4.1	2	7.4	39.2	96.2	81.9	9.2	75	23	198	36
7	Lightning (DH130910)	2	Malt	3280	1277	4240	1235	2508	37	56.0	25	1.3	6/11	53	0.4	3	73	26	19.4	36	19.4	39.7	96.5	80.3	10.6	130	63	258	28
8	Esma	2	Malt	4239	2420	5284	2187	3533	4	57.6	13	0.6	6/11	54	1.5	17	47	10	4.4	3	6.3	42.0	95.8	82.5	9.0	69	23	220	36
9	Eifel	2	Malt	4175	2261	4756	2015	3302	14	55.5	27	1.5	6/14	53	1.7	19	68	12	8.3	17	10.5	38.9	97.1	84.3	9.4	65	58	217	33
10	Expo	2	Malt	3300	2156	4489	1948	2973	31	55.3	30	1.5	6/11	57	0.6	5	60	11	6.9	10	10.4	34.7	92.5	80.9	9.3	78	29	246	26
11	CU127	2	Malt	3437	2180	4954	1992	3141	24	57.2	16	2.3	6/12	63	1.3	13	55	11	6.6	9	8.3	36.8	91.0	81.7	8.6	64	101	209	27
12	CU198	2	Malt	3944	2447	3845	2163	3099	26	59.2	2	2.0	6/11	67	2.9	32	37	12	4.5	4	6.4	40.0	96.9	82.6	9.2	86	75	203	35
13	KWS Willis (Non GN	2	Malt	3100	1940	5215	2141	3099	27	55.2	32	1.0	6/14	55	0.6	6	65	21	13.6	27	10.2	39.4	98.6	83.2	9.3	72	28	260	33
14	KWS Amadora	2	Malt	3212	2095	3835	1629	2693	35	54.7	33	2.8	6/11	51	3.2	35	63	20	13.0	25	21.0	35.0	92.9	82.7	8.7	61	9	218	31
15	KWS Fantex	2	Malt	3895	1637	5133	2201	3217	20	54.5	35	0.4	6/16	51	1.4	15	90	32	28.5	37	17.6	36.0	96.3	82.4	9.2	60	29	238	31
16	CH2909n-162-95	2	Food	2819	1888	2957	1746	2352	38	67.0	1	4.8	6/12	64	1.2	10	27	13	3.5	1	3.1	33.8	*70.1	81.8	*12.3	62	*927	149	18
17	CU36	2	Malt	4257	2057	3606	2713	3158	23	55.4	29	1.6	6/14	69	1.9	22	82	21	17.7	34	8.8	39.1	98.2	82.2	9.3	89	100	186	36
18	CU185	2	Malt	3585	2003	3712	1858	2790	34	55.3	31	1.8	6/11	57	3.0	33	62	13	8.1	15	9.2	36.8	96.0	82.5	9.2	76	108	220	27
19	CU223	2	Malt	3830	2374	3400	2447	3013	30	57.9	9	3.0	6/11	66	2.6	28	43	13	5.6	5	5.4	40.5	98.5	83.0	10.2	113	133	221	43
20	CU22	2	Malt	4042	2369	4400	2570	3345	10	56.1	23	1.6	6/14	71	2.1	24	67	15	10.2	21	7.0	37.9	95.3	81.5	9.2	89	87	228	26
21	CU75	2	Malt	4092	2210	5091	2827	3555	3	55.9	26	0.3	6/13	69	1.4	16	63	14	9.8	20	7.6	38.2	95.1	80.5	9.5	85	267	186	24
22	CU29	2	Malt	4466	2162	4463	1652	3186	21	56.1	24	1.7	6/14	62	1.5	18	67	11	7.7	14	3.2	38.6	97.5	83.4	8.9	75	267	194	29
23	Excelsior Gold (CU31	2	Malt	3812	2035	3425	2459	2933	33	58.1	7	0.1	6/11	69	1.8	21	57	19	10.3	22	7.7	42.3	97.9	83.0	10.0	96	258	213	37
24	CU53	2	Malt	3913	1927	4015	2029	2971	32	58.3	6	1.3	6/11	73	3.1	34	67	22	14.5	30	5.9	43.1	98.0	82.7	10.2	78	407	220	34
25	CU4	2	Malt	4105	2094	4952	2099	3312	12	59.1	3	0.9	6/12	65	2.2	25	55	15	8.1	16	6.8	36.1	95.9	81.7	9.0	105	129	183	37
26	CU20	2	Malt	4034	2024	4472	2754	3321	11	58.7	5	2.2	6/11	66	1.8	20	53	11	6.2	7	5.1	37.7	93.8	81.2	9.4	110	152	199	29
27	CU142	2	Malt	3691	2112	5125	2196	3281	17	57.7	11	1.1	6/16	68	1.4	14	85	17	14.4	29	9.4	39.5	94.9	82.6	9.5	88	117	197	32
28	CU110	2	Malt	3517	2267	4415	3014	3303	13	57.6	14	2.3	6/11	65	2.0	23	62	12	7.2	12	4.7	35.6	91.9	81.9	9.6	97	98	208	34
29	CU54	2	Malt	3861	1994	5019	2609	3371	9	59.0	4	0.3	6/15	62	2.7	29	60	18	10.7	24	8.0	35.9	94.2	82.4	9.6	109	190	155	38
30	CU193	2	Malt	3981	2414	4514	2908	3454	5	58.1	8	2.8	6/14	68	1.2	9	68	19	13.4	26	6.3	36.3	95.9	82.1	9.2	98	87	195	37
31	CU235	2	Malt	4182	2331	3416	2812	3185	22	55.5	28	2.5	6/13	66	3.7	37	58	14	10.5	23	7.9	42.7	97.5	81.6	8.6	104	43	228	43
32	CU143	2	Malt	3500	2091	5157	2389	3285	16	56.8	19	1.4	6/16	72	0.4	4	83	22	18.1	35	9.4	39.4	90.8	82.5	8.5	92	184	204	26
33	CU162	2	Malt	4268	2358	5223	2444	3573	2	57.9	10	1.0	6/13	61	2.9	31	58	13	8.6	19	5.0	38.3	97.3	83.2	8.7	64	124	216	29
34	CU107	2	Malt	4372	2241	5251	3154	3754	1	57.5	15	1.3	6/13	65	3.3	36	65	18	14.7	31	4.5	36.8	92.6	81.7	10.1	126	89	180	43
35	BC Ellinor	2	Malt	4087	2081	5068	2428	3416	7	53.9	37	1.9	6/13	58	0.7	7	93	31	29.2	38	23.7	35.8	97.3	83.0	8.8	66	47	235	31
36	BC Leandra	2	Malt	3498	2298	5134	1498	3107	25	52.8	38	2.3	6/14	52	1.3	12	53	12	6.2	6	5.4	34.4	92.9	80.2	8.8	84	25	187	29
37	KWS Thalis	2	Malt	3973	2060	4552	2453	3260	18	56.4	21	1.7	6/11	53	1.2	11	52	14	7.4	13	9.4								
38	BC Lexy	2	Malt	3744	2263	5086	2092	3296	15	54.6	34	0.8	6/15	56	2.5	27	68	19	14.0	28	9.2								
	Mean			3808	2136	4440	2315	3175		56.8		1.7	6/12	62	1.9													
	CV			17.1	10.6	12.1	27.4																					

Cumulative Summary

				Grain Yield				Test Weigh		Head	Lodg	Ht.	PreHarv	FHB	FHB	FHB		Kernel on		Malt	Barley		Beta		All Malt
				3 Years		2 Years		2 Years		Date	0-9	cm	Sprout	Inc	Sev	Indx	DON	Wt.	6/64	Extract	Protein	DP	Glucan	FAN	Quality
	Entry	Row#	Class	kg/h	b/a	kg/h	b/a	kg/hl	lbs/b	2 Yr	2 Yr	2 Yr	2 Yr	2 Yr	2 Yr	2 Yr	2 Yr	(mg)	%	%	%	ASBC	ppm	ppm	Score
1	Quest	6	Malt	2941	55	2816	52	59.5	46.5	6/16	1.5	70	0.8	48	24	10.8	3.0	34.1	95	82	10.4	108	262	241	NA
2	ND Genesis	2	Malt	3111	58	2902	54	59.2	46.2	6/18	1.2	64	2.5	78	16	12.2	3.9	41.5	98	82	9.5	62	125	201	33
3	AAC Synergy	2	Malt	3513	65	3494	65	58.9	46.0	6/19	0.5	61	4.7	61	16	9.7	6.2	40.3	98	84	9.1	70	97	248	32
4	Newdale	2	Malt	3337	62	3288	61	59.1	46.2	6/20	0.9	58	3.4	51	18	11.1	4.0	37.0	94	83	9.2	72	64	217	33
5	KWS Jessie	2	Malt	3333	62	3207	60	57.6	45.0	6/18	0.8	51	1.2	58	13	7.4	8.5	38.4	98	83	9.5	65	63	257	31
6	Explorer	2	Malt	3265	61	3220	60	59.6	46.6	6/17	0.8	52	0.2	44	12	5.2	4.0	41.9	98	82	9.2	67	48	221	36
7	Lightning (DH130910)	2	Malt	2398	45	2408	45	59.4	46.4	6/17	0.7	52	0.3	74	20	14.6	14.9	44.2	98	80	11.0	128	105	260	27
8	Esma	2	Malt	3472	65	3525	66	60.1	47.0	6/18	0.3	54	1.0				3.7	43.7	98	83	9.3	68	35	231	36
9	Eifel	2	Malt	3359	62	3378	63	58.6	45.8	6/20	0.8	52	1.5				5.3	41.7	98	84	9.4	62	141	225	31
10	Expo	2	Malt	3074	57	3126	58	59.0	46.1	6/18	0.8	58	0.6				7.0	40.3	96	82	9.4	77	51	245	31
11	CU127	2	Malt	3289	61	3145	58	60.4	47.2	6/19	1.2	62	1.0				4.5	40.1	93	83	8.6	57	117	229	30
12	CU198	2	Malt	3453	64	3210	60	61.5	48.0	6/18	1.0	66	2.1				3.8	42.6	98	83	9.6	68	109	211	36
13	KWS Willis (Non GN	2	Malt			3124	58	57.6	45.0	6/20	0.5	56	0.5				5.9	42.0	99	83.0	9.5	61	129	277	31
14	KWS Amadora	2	Malt			3053	57	58.5	45.7	6/18	1.4	52	3.3				13.1	38.5	96	82.5	9.1	61	70	241	31
15	KWS Fantex	2	Malt			3231	60	57.7	45.1	6/21	0.2	50	2.4				11.4	38.5	98	82.9	9.5	50	189	240	30
16	CH2909n-162-95	2	Food			2425	45	69.3	54.1	6/20	2.4	63	1.3				2.7	35.0	85	79.4	12.8	54	1230	164	19
17	CU36	2	Malt			3219	60	58.1	45.4	6/20	0.8	66	1.6				4.5	39.8	98	82.2	9.1	79	109	207	34
18	CU185	2	Malt			3013	56	58.3	45.5	6/19	0.9	57	3.0				4.8	39.2	97	82.6	9.2	65	129	231	29
19	CU223	2	Malt			3048	57	59.8	46.7	6/18	1.5	63	1.9				2.9	40.6	99	83.0	9.8	79	190	204	37
20	CU22	2	Malt			3236	60	58.7	45.9	6/20	0.8	66	2.2				5.2	39.2	96	81.7	9.3	73	118	223	29
21	CU75	2	Malt			3517	65	58.0	45.3	6/20	0.2	66	1.6				4.7	39.8	97	80.8	9.1	68	278	195	24
22	CU29	2	Malt			3217	60	58.7	45.8	6/20	0.8	63	1.7				1.7	39.9	98	83.4	9.1	57	358	200	29
23	Excelsior Gold (CU31	2	Malt			3001	56	60.3	47.1	6/18	0.0	68	2.0				5.8	44.2	99	82.7	10.1	80	243	237	36
24	CU53	2	Malt			2896	54	60.5	47.2	6/19	0.7	68	2.3				4.5	43.6	99	81.8	10.6	70	437	228	29
25	CU4	2	Malt			3214	60	61.7	48.2	6/19	0.5	62	2.3				4.2	38.0	97	81.5	9.3	96	125	202	31
26	CU20	2	Malt			3284	61	61.1	47.8	6/18	1.1	64	1.4				3.1	40.1	96	81.3	9.6	97	122	214	33
27	CU142	2	Malt			3048	57	60.1	47.0	6/22	0.5	66	1.0				7.7	42.7	97	82.3	10.0	71	186	207	33
28	CU110	2	Malt			3347	62	60.3	47.1	6/19	1.2	63	1.4				2.8	38.4	95	81.8	9.6	87	157	212	31
29	CU54	2	Malt			3278	61	61.9	48.3	6/21	0.2	61	2.8				4.7	38.0	96	82.3	9.4	91	163	174	38
30	CU193	2	Malt			3410	63	60.4	47.2	6/20	1.4	65	1.0				3.5	38.3	97	82.3	9.1	78	114	211	34
31	CU235	2	Malt			3272	61	58.0	45.3	6/19	1.3	65	3.3				6.5	43.8	99	81.9	9.2	90	79	233	40
32	CU143	2	Malt			3208	60	59.4	46.4	6/22	0.7	67	0.6				5.1	41.9	95	81.9	9.3	85	184	224	27
33	CU162	2	Malt			3632	68	60.7	47.4	6/20	0.5	63	2.4				3.0	40.9	98	83.1	8.9	55	200	198	33
34	CU107	2	Malt			3517	65	60.0	46.9	6/20	0.7	65	2.6				2.3	38.1	95	81.7	10.0	111	99	197	40
35	BC Ellinor	2	Malt			3297	61	56.7	44.3	6/19	1.0	58	0.8				12.2	38.1	98	82.7	9.4	55	94	226	33
36	BC Leandra	2	Malt			3278	61	56.9	44.4	6/20	1.1	50	1.3				4.7	39.2	96	81.4	8.6	64	36	205	33

M. E. Sorrells, D. Benscher, J. Tanaka, J. Knecht - Department of Plant Breeding & Genetics - Cornell University

Funding Sources: New York State Ag & Markets, American Malting Barley Association

2021 Spring Oat Regional and Cumulative Summaries - Cornell University

		Grain Yield (kg/h)						Test Wt (kg/hl)			Head
	Entry	Ith-Sny	Ith-Ket	SteCo.	Ith-Hel	Mean	Rank	Mean	Rank	**Lodging**	**Date**
1	OGLE	3602	2250	2762	1833	2612	11	44.1	24	3.1	6/20
2	NEWDAK	3420	2320	2391	1646	2444	18	46.6	14	5.8	6/19
3	Corral	3440	2161	3152	1706	2615	10	44.8	21	4.4	6/21
4	Steuben	3297	1516	2267	2131	2303	20	45.0	20	5.6	6/25
5	SD111946	3438	1575	2676	2002	2423	19	46.9	13	6.3	6/21
6	Buff (naked)	3136	1538	2720	1671	2266	21	52.6	7	3.9	6/21
7	IL12 - 9020	4367	2422	2599	1988	2844	4	45.6	17	5.3	6/19
8	SD150015	4653	2173	2375	2504	2926	2	48.0	10	1.3	6/24
9	ND131603	3886	2312	2334	2424	2739	7	43.3	26	5.2	6/23
10	SD140327	3871	2079	2119	2324	2598	12	47.4	11	5.5	6/21
11	ND130237	3402	1977	3462	1831	2668	8	44.7	22	5.1	6/24
12	SD140741	4201	2002	2725	2170	2774	6	47.3	12	3.3	6/21
13	OT3100	3936	1872	3651	2864	3081	1	43.5	25	1.3	6/25
14	ND150797	3386	2045	2798	2146	2594	13	45.9	16	6.3	6/25
15	BCO2003	3191	1970	3625	1842	2657	9	42.0	29	6.0	6/23
16	BCO2004	4006	1600	2871	1827	2576	14	46.3	15	3.1	6/23
17	BCO2005	3786	1754	3639	2526	2926	3	45.3	18	1.6	6/26
18	ACGehl (naked)	1809	835	2853	934	1607	27	48.7	9	4.5	6/24
19	OA1456-2N (naked)	2403	1183	2459	1050	1774	24	49.2	8	2.7	6/26
20	Navaro (naked)	2406	950	3152	934	1861	22	57.3	6	0.6	6/26
21	Fuego (naked)	2075	775	2467	994	1578	28	59.1	4	4.6	6/26
22	Casino (naked)	1899	760	2640	1171	1618	26	59.5	3	1.5	6/26
23	14ANS01 (naked)	2690	952	2613	848	1776	23	59.6	2	2.2	6/25
24	15ANS06 (naked)	2536	900	2737	919	1773	25	60.6	1	1.6	6/24
25	Paul (naked)	2235	856	1982	612	1421	29	57.5	5	6.3	6/24
26	BCO2101	3323	1630	3386	1827	2541	16	43.2	27	5.1	6/25
27	BCO2102	3204	2171	2859	1581	2454	17	44.2	23	5.5	6/23
28	PGR-N13-13	3158	1529	3346	2224	2564	15	43.1	28	2.2	6/25
29	SD170777	4002	2571	2610	2149	2833	5	45.0	19	4.1	6/23
	Mean	3243	1631	2763	1716	2338		49.2		3.9	6/23
	CV	13.4	10.8	14.4	24.4						

Highlighed = Naked oats

	Cumulative Summary	Grain Yield								Test Weight		Head	Lodging	Height
		6 Years		4 Years		3 Years		2 Years		2 Years		**Date**	0-9	cm
	Entry	kg/h	b/a	kg/h	b/a	kg/h	b/a	kg/h	b/a	kg/hl	lbs/b	2 Yr	2 Yr	2 Yr
1	OGLE	2352	66	2416	67	2588	72	2807	78	47.1	36.8	6/23	2.9	76
2	NEWDAK	2411	67	2469	69	2616	73	2567	72	49.3	38.5	6/22	6.5	84
3	Corral	2386	67	2543	71	2680	75	2807	78	47.6	37.2	6/25	3.0	70
4	Steuben	2536	71	2644	74	2598	72	2778	77	49.0	38.3	6/28	5.0	81
5	SD111946	2605	73	2627	73	2662	74	2702	75	50.5	39.4	6/24	5.0	80
6	Buff (naked)	2014	56	2087	58	2174	61	2242	63	57.3	44.7	6/24	3.8	79
7	IL12 - 9020			2922	81	2980	83	2958	82	49.2	38.4	6/22	4.3	73
8	SD150015					3039	85	3033	85	51.1	39.9	6/26	1.8	75
9	ND131603					2952	82	2914	81	46.3	36.1	6/25	6.1	85
10	SD140327					2992	83	2926	82	50.4	39.4	6/24	6.4	81
11	ND130237					2831	79	2903	81	48.8	38.1	6/26	4.9	96
12	SD140741					2895	81	2880	80	50.3	39.3	6/24	3.6	87
13	OT3100							3289	92	45.8	35.7	6/28	1.5	
14	ND150797							2890	81	49.2	38.4	6/28	4.7	
15	BCO2003							3005	84	45.7	35.7	6/26	5.7	
16	BCO2004							2976	83	49.4	38.6	6/26	2.4	
17	BCO2005							3158	88	47.7	37.3	6/29	1.1	
18	ACGehl (naked)							1561	44	59.4	46.4	6/26	3.1	
19	OA1456-2N (naked)							1941	54	56.8	44.4	6/29	2.3	
20	Navaro (naked)							2039	57	60.8	47.5	6/29	1.1	
21	Fuego (naked)							1742	49	62.6	48.9	6/28	3.6	
22	Casino (naked)							1806	50	62.9	49.1	6/29	1.3	
23	14ANS01 (naked)							1982	55	62.5	48.8	6/28	1.4	
24	15ANS06 (naked)							1831	51	62.3	48.6	6/28	1.0	
25	Paul (naked)							1864	52	60.3	47.1	6/28	5.1	

M. E. Sorrells, D. Benscher, J. Tanaka, J. Rice - Department of Plant Breeding & Genetics - Cornell University