

# Cornell University

## College of Agriculture and Life Sciences

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### 2017 Small Grains Performance Trials for New York

Enclosed are the results of our 2017 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 breeding program. 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). In collaboration with the University of Illinois, we have also released a high-yielding spring oat variety named Corral.

I wish to recognize the contributions of Research Support Specialist, David Benscher, Technical Assistant, James Tanaka, Field Assistants, Amy Fox, Jesse Chavez and Extension Support Specialist Judy Singer and thank them for their dedication.  
Sincerely,

Mark E. Sorrells  
Professor of Plant Breeding & Genetics

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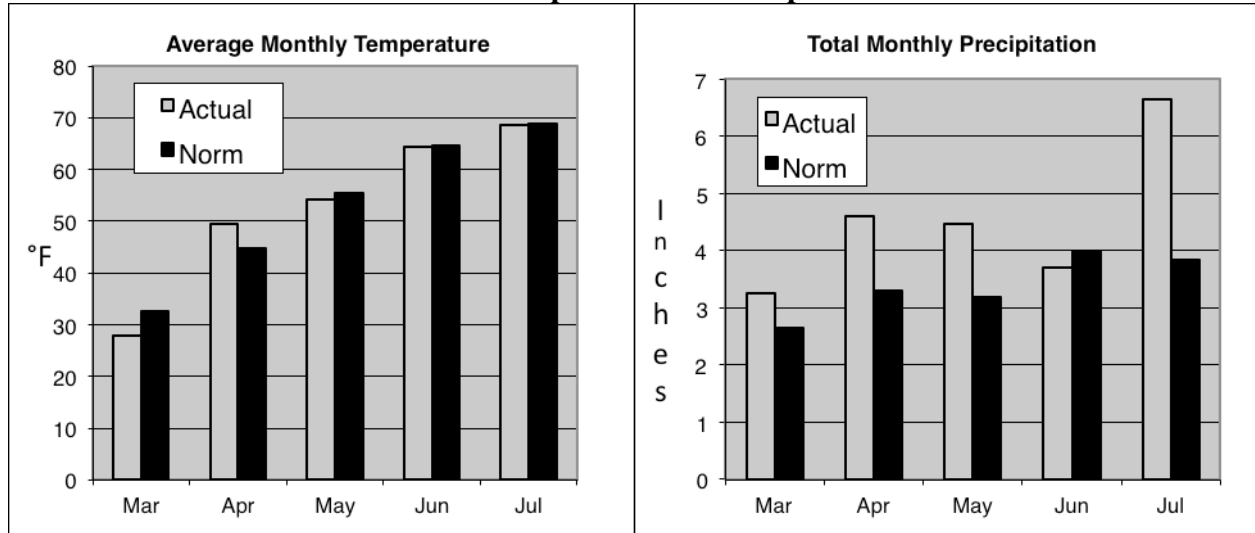
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#### Testing Procedures:

In 2017, the Soft White Winter Wheat, Soft Red Winter Wheat, Winter Malting Barley, Winter Hybrid Rye, Spring Malting Barley, and Spring Oat regional trials 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

standard 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 45 kg/h (40 lbs/a) of actual N in the spring. For more information about small grains management see <http://fieldcrops.cals.cornell.edu/>.

### 2017 Precipitation and Temperature



The winter wheat, winter malting barley and hybrid rye trials were planted on September 28 and October 6 in Ithaca, on September 27 in Monroe County, and October 7 in Seneca County. The spring grains were planted on April 24 and April 28 in Ithaca, May 11 in Genesee County and April 27 in Steuben County. The Hudson Valley winter trials were planted on October 4 and spring trials were planted April 18. The growing season averaged about 0.3 degrees cooler than normal and rainfall was 5.72 inches above average rainfall with a total of 22.7 inches for the growing season in Ithaca. The 2017 growing season was the seventh wettest March 1 to June 30 period since 1873 when records were initiated at the Game Farm weather station near the Cornell Campus.

#### 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, test sites for winter grains were generously provided by Ron Breslowski - Monroe County, Jeffrey Trout - Seneca County, and Rick Pederson - Ontario County. Test sites for spring grains were provided by Dave Wallace - Steuben County, Ted Hawley - Genesee County, Tom Ryan - Genesee 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 Justin O’Dea have been instrumental in arranging test sites, field days, and information distribution. Also, we thank Drs. Gary C. Bergstrom, William J. Cox, and Margaret E. Smith, extension faculty in Plant Pathology, Crop and Soil Sciences, 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 number 2011-51300-30697. Most importantly, a special thanks goes to Judy Singer for her help in proofreading the data and report.

## 2017 Red Winter Wheat Summaries - Cornell University

Entry	Grain Yield (kg/h)						Test		Lodg.	Head Date	Preharvest		Winter Surv.	Height cm	wssmv	FHB			Rank		
	Regional Locations						Weight	Rank			0-9	Sprouting				0-9	Incid.	Sev.		Index	
	lth-McC	lth-Ket	SenCo	MonCo	Mean	Rank															kg/hl
1	Otsego	N	N	6304	5367	5836	26	71.5	29	1.5	5/28	0.4	12	98	102	2.7	61	14	9	23	
2	Erie (OH02-12686)	O	O	7444	6361	6902	3	73.5	7	1.0	6/1	2.9	29	95	101	5.7	33	11	4	5	
3	Pioneer 25R40			7382	6936	7159	1	73.9	6	0.0	5/26	1.1	27	98	92	7.0	78	13	10	27	
4	IL04-8445-440	D	D	7612	6530	7071	2	74.1	5	1.5	5/25	0.4	13	97	100	5.0	28	14	4	8	
5	Pioneer 25R25	A	A	7377	5708	6542	9	72.5	19	0.0	5/28	0.5	14	94	92	6.0	39	9	4	7	
6	L11550	T	T	5726	5858	5792	28	73.1	17	0.0	5/28	0.5	17	100	93	6.7	64	14	9	24	
7	Hilliard (VA11W-108)	A	A	6229	5983	6106	20	73.1	16	1.0	5/26	0.3	7	99	104	6.3	47	10	5	12	
8	Branson			6280	5717	5999	22	71.9	26	2.0	5/24	0.8	22	100	98	5.0	34	12	4	9	
9	KWS009			5973	4708	5340	30	74.7	2	1.5	5/27	0.3	6	99	103	3.7	71	18	13	28	
10	KWS052			7009	5271	6140	19	74.3	4	1.0	5/26	0.6	21	95	100	4.7	29	13	4	6	
11	OH07-263-3			6302	5498	5900	25	73.5	10	0.5	5/25	0.1	2	99	113	3.0	43	14	6	17	
12	MO121058			5953	5636	5794	27	72.4	20	2.5	5/28	0.5	15	98	102	2.0	48	11	5	13	
13	MI14R0329			6631	6259	6445	11	73.5	8	1.0	5/28	1.0	25	92	103	5.7	48	12	6	16	
14	OH13-157-65			6874	5729	6302	14	75.6	1	0.5	5/30	1.8	28	100	104	5.0	30	19	6	15	
15	OH13-159-34			5825	6052	5938	23	72.1	24	0.0	5/27	1.0	26	94	100	4.7	26	32	8	22	
16	OH13-312-55			6137	5739	5938	24	72.2	22	1.5	5/26	0.3	8	98	97	4.3	53	19	10	26	
17	NY05152-821R			6399	5669	6034	21	74.5	3	0.5	5/29	0.6	20	93	110	3.0	46	13	6	19	
18	Pioneer 25R61			7153	5898	6526	10	71.7	28	0.0	5/27	0.3	9	97	97	4.3	29	8	2	2	
19	VA11W-108PA			6476	5903	6189	17	73.5	9	0.0	5/26	0.5	16	99	103	4.0	53	8	4	11	
20	VA12W-31			5975	5606	5790	29	73.2	15	1.0	5/27	0.5	18	98	90	6.0	75	18	13	29	
21	SW550			6838	6303	6570	7	72.4	21	1.0	5/28	0.1	3	100	98	6.0	45	14	6	18	
22	SW63SR			7168	6331	6749	4	72.1	23	0.5	5/28	0.2	5	99	98	5.0	51	10	5	14	
23	L11418			6847	6268	6558	8	72.8	18	3.0	5/25	0.4	11	98	98	5.0	36	12	4	10	
24	L11610 (DH)			6920	5870	6395	13	73.2	13	1.0	5/26	0.1	1	97	95	6.3	60	14	8	21	
25	NY11013-10-72-1314			5861	6449	6155	18	73.2	12	1.0	6/2	0.4	10	98	111	6.3	21	9	2	1	
26	NY11013-10-15-1312			6747	6607	6677	5	73.2	14	1.0	5/30	0.2	4	90	110	6.0	22	14	3	3	
27	MI14R0686			6726	5773	6250	16	71.8	27	0.0	5/29	0.9	23	99	103	4.0	81	20	16	30	
28	OH12-169-48			6585	6580	6583	6	71.1	30	0.5	5/27	3.0	30	100	102	4.0	48	13	6	20	
29	OH13-118-29			6896	5923	6410	12	73.2	11	0.5	5/28	1.0	24	98	96	6.7	30	10	3	4	
30	NY03143-1218			6226	6299	6262	15	72.0	25	1.5	5/30	0.6	19	100	102	4.7	47	21	10	25	
Mean				6596	5961	6278		73.0		0.9	5/27	0.7		97	100	5	46	14	7		
CV				11.0	8.4																

<b>Cumulative Summary</b>																											
Entry	Grain Yield						Test		Lodg.	Height	Head	Preharv	Winter	Sprout	wssmv	FHB	FHB	FHB									
	4 Year		3 Year		2 Year		Test Wt(2Yr)												0-9	cm	Date	Surv.	0-9	Rating	%	%	%
	kg/h	b/a	kg/h	b/a	kg/h	b/a	kg/hl	lb/b																			
1	Otsego	5795	86	5841	87	6162	92	75.2	58.8	2.8	102	5/28	98	0.5	2.0	38	8	5									
2	Erie (OH02-12686)	6338	94	6417	95	6896	103	76.2	59.5	1.8	100	5/31	98	2.5	3.0	18	6	2									
3	Pioneer 25R40	6892	102	6962	104	7349	109	76.9	60.0	0.3	89	5/28	99	1.9	6.7	53	9	6									
4	IL04-8445-440	6628	99	6733	100	7038	105	77.7	60.7	2.3	97	5/27	98	0.9	6.0	20	8	2									
5	Pioneer 25R25			6669	99	7026	104	75.3	58.8	1.3	91	5/30	96	1.1	5.7	21	5	2									
6	L11550			6276	93	6551	97	76.3	59.6	2.0	91	5/29	100	1.6	7.7	47	10	6									
7	Hilliard (VA11W-108)			6523	97	6781	101	76.3	59.6	1.3	97	5/27	98	1.9	5.3	33	6	3									
8	Branson			6191	92	6581	98	75.2	58.7	2.3	95	5/26	100	1.5	4.5	32	8	3									
9	KWS009			5929	88	6091	91	78.1	61.0	2.0	97	5/28	98	0.7	3.7	41	10	13									
10	KWS052			6467	96	77.0	60.2	3.5	98	5/28	98	1.2	3.5	21	7	2											
11	OH07-263-3			6367	95	76.8	60.0	2.0	112	5/27	100	0.5	2.0	28	8	3											
12	MO121058			6358	95	76.3	59.6	4.0	97	5/29	96	1.2	2.3	34	7	3											
13	MI14R0329			6646	99	77.0	60.2	2.0	101	5/29	96	1.2	4.7	27	6	3											
14	OH13-157-65			6581	98	77.7	60.7	0.8	101	5/30	100	2.7	5.8	19	10	3											
15	OH13-159-34			6479	96	75.8	59.2	1.0	101	5/28	97	2.3	3.3	22	18	4											
16	OH13-312-55			6494	97	75.5	59.0	2.3	96	5/28	99	1.0	2.5	34	11	5											
17	NY05152-821R			6231	93	77.4	60.5	1.3	106	5/30	95	1.0	1.8	25	7	3											

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