

WHEAT (*Triticum aestivum*) and BARLEY (*Hordeum vulgare*)
 Fusarium head blight (scab); *Fusarium graminearum*
 Leaf rust; *Puccinia triticina*, *P. hordei*
 Wheat Septoria slotch; *Zymoseptoria tritici*
 Wheat Stagonospora blotch; *Parastagonospora nodorum*
 Barley spot blotch; *Bipolaris sorokiniana*
 Powdery mildew; *Blumeria graminis* f.sp. *tritici*, *hordei*

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Evaluation of foliar and spike disease on spring wheat and malting barley varieties in eastern New York, 2015

Spring wheat and malting barley variety trials under two management plans were conducted at the Hudson Valley Farm Hub in Hurley, NY. Trials were arranged in complete random blocks split by management. Varieties were grouped by crop and separated by several empty rows. Sub-plots were triplicated, and each was a six-row plot measuring 13.12 ft by 4.13 ft. In the first treatment (M1), 30 lb/A of N was applied at planting as 34:0:0 ammonium nitrate, and Harmony + Buctril with a surfactant was applied for weed control on 10 Jun. The second treatment (M2) was fertilized with 30 lb/A of N in the form of 5:4:3 Kreher's chicken manure compost, and plots were tine weeded on 18 May. Seed was sown on 30 Apr at 180 lb/A for wheat and 98 lb/A for barley. Both 2- and 6-row malting barleys were planted, and all the wheat was hard and red. No inoculum or fungicides were applied. Scab ratings were taken on 17 Jul, and all other disease data were collected on 2 Jul. Disease severity was assessed on flag leaves or spikes and averaged across entire plots. Variety means from each trial were subjected to ANOVA, and significant differences were identified using Tukey's HSD ($P=0.05$).

Disease incidence was comparable across management treatments. No variety exhibited symptoms of glume blotch. Leaf rust incidence and the FHB index were uniformly low in both barley and wheat. Leaf blotch incidence on the the 2-row barleys Pinnacle and Conlon was severe. The 6-row barley varieties all exhibited some signs of powdery mildew, and the 2-row barley varieties had only trace amounts. High levels of leaf blotches on malting barley could be a limiting factor to production under these management plans, and the deployment of resistant varieties will be important for disease control as acreage increases.

Barley Variety	Leaf Blotch				Powdery Mildew				Leaf Rust				FHB Index	
	M1		M2		M1		M2		M1		M2		M1	M2
AAC Synergy (2) ^z	2.33 ^y	b ^x	2.33	b	0.00	b	0.00		0.17	b	0.00	b	0.70	1.77
Cerveza (2)	7.33	b	5.67	b	0.00	b	0.00		0.00	b	0.00	b	0.40	0.90
Conlon (2)	73.33	a	53.33	a	0.00	b	0.00		0.00	b	0.00	b	0.53	0.57
Herta (2)	20.00	b	7.33	b	0.00	b	0.00		0.00	b	0.17	b	0.30	0.70
Lacey (6)	4.33	b	3.00	b	6.33	ab	2.67		1.67	a	1.00	a	0.18	1.43
M152 (6)	7.33	b	4.33	b	11.67	a	2.33		0.33	b	0.67	a	0.67	2.20
ND Genesis (2)	5.67	b	5.00	b	0.00	b	0.00		0.17	b	0.00	b	0.66	1.16
Newdale (2)	8.33	b	3.67	b	0.00	b	0.17		0.00	b	0.00	b	1.20	0.21
Pinnacle (2)	70.00	a	56.67	a	0.00	b	0.00		0.00	b	0.00	b	0.55	2.16
Quest (6)	7.00	b	7.33	b	3.00	ab	0.50		0.50	ab	0.83	a	0.55	0.89
HSD ($P=0.05$)	39.68		4.09		10.00		4.09		1.34		0.46		1.48	4.83
CV (%)	66.73		91.83		164.73		249.57		161.09		59.29		74.77	118.68

Wheat Variety	M1		M2		M1		M2		M1		M2		M1	M2
	Cromwell	0.83	c	1.00	bc	0.50		0.67		0.00	b	0.00	b	0.17
Elgin	10.00	ab	2.33	abc	0.33		0.50		0.00	b	0.00	b	0.19	0.30
Faller	1.67	bc	1.00	bc	0.00		0.33		0.00	b	0.00	b	0.19	0.33
Glenn	11.00	a	4.33	a	0.00		0.00		0.00	b	0.17	b	0.07	0.26
RB07	1.67	bc	1.00	bc	0.00		0.17		0.00	b	0.00	b	0.09	0.17
Red Fife	1.00	bc	0.83	c	0.33		0.67		0.83	a	1.00	a	0.37	0.22
Rollag	2.33	abc	1.00	bc	0.17		0.33		0.00	b	0.17	b	0.24	0.11
Sabin	4.33	abc	3.00	ab	0.00		0.00		0.00	b	0.00	b	0.16	0.10
Stoa	5.33	abc	2.33	abc	0.50		0.33		0.33	b	0.17	b	0.24	0.06
Tom	1.00	bc	1.67	bc	0.33		0.33		0.17	b	0.00	b	0.11	0.36
HSD ($P=0.05$)	9.09		2.13		0.70		0.70		0.46		0.46		0.54	0.69
CV (%)	80.23		39.78		111.47		72.46		118.59		105.41		102.94	116.95

^z 2- or 6-row barley^y All data are presented as the mean percentage with the exception of FHB Index

^x Numbers within a column followed by the same letter were not found to be significantly different at $P=0.05$ by Tukey's HSD Test