

Wheat (*Triticum aestivum*)

Stagonospora leaf blotch, (*Stagonospora nodorum*)

Wheat Disease Evaluations-2014

Disease severity was evaluated the small grains variety trial located in Marydel, Delaware. The variety trial tests the adaptability of winter wheat varieties to Delaware growing conditions and susceptibility to common diseases in the region. Several pathogens common to the region were detected on leaves and heads, including leaf rust, Stagonospora leaf blotch, powdery mildew, and Fusarium head blight. Only Stagonospora was dispersed uniformly and at levels at the flag leaf high enough to rate. Although moderate levels of head scab were present at the site the disease was not rated due to variation in flowering date, which likely results in disease escape and can impact apparent resistance to this disease.

The disease ratings were made on June 12th 2013. The stage of development was mid to late-dough. Plots were identified with numbers and not variety identifications. There were three plots per variety. Ten flag leaves per plot were randomly sampled and rated for percent disease using standard disease severity scales (C. James, 1971. A Manual of Assessment Keys for Plant Diseases. The American Phytopathological Society. St. Paul, MN). F-1 leaves were senescing and therefore not rated. The average area of diseased leaves (severity) was calculated for each plot by averaging the severity ratings for the ten leaves sampled. Data were log transformed for normality and statistically analyzed using JMP Pro v. 11 (SAS Institute Inc.). Means were separated using Fishers Protected LSD ($\alpha=0.10$). Data are provided in Table 1.

Across Delaware, Stagonospora leaf blotch and powdery mildew were prevalent. Due to a cold, penetrating winter and a cool spring, powdery mildew and leaf blotches were not prevalent until after Feekes 8/9 in many fields. Leaf rust was not detected until after flowering and was not an issue in 2014. Stagonospora was moderate to severe in some unsprayed fields in parts of Delaware. Fusarium head blight/scab was prevalent, but low in incidence and severity. Most fields were well below 2% field index, a measure of bleaching at the field level. Tan spot was also present in many fields, but not found at the variety trial in Marydel, Delaware.

Source	Variety	Average % Severity	Rating (1-5)	Source	Variety	Average % Severity	Rating (1-5)
Ga Exp	Ga-041239-11E44	0.4 A	1				
GroMark	FSX 855	0.4 A	1	DynaGro	9223	2.5 ABCD	2
DynaGro	Shirley	0.4 A	1	MBX	14-K-297	2.5 ABCD	2
Agrimaxx	Exp. 1465	0.7 AB	1	DynaGro	WX13652	2.5 ABCD	2
GroMark	FSX 851	0.7 AB	1	Southern States	5205	2.6 ABCD	2
Unisouth	3612	0.7 AB	1	Unisouth	3201	3.1 ABCD	3
Agrimaxx	Exp. 1444	0.8 AB	1	GroMark	FSX 850	3.3 ABCD	3
GroMark	FSX 853	0.8 AB	1	Ga Exp	Ga-041293-11LE37	3.3 ABCD	3
Syngenta	SY474	1.0 ABC	2	GroMark	FSX 888	3.4 ABCD	3
GroMark	FS 820	1.0 ABC	2	MD Exp.	MD04W249-11-7	3.5 ABCD	3
MD Exp.	MD05W56-12-5	1.0 ABC	2	Southern States	8870	3.5 ABCD	3
GroMark	FSX 854	1.1 ABC	2	Southern Harvest	3200	3.8 ABCD	3
Mercer Brand	12-V-251	1.1 ABCD	2	GroMark	FS 815	3.9 ABCD	3
Public	Cheaspeake	1.2 ABCD	2	Southern States	8340	4.1 ABCD	3
Southern States	8415	1.2 ABCD	2	Unisouth	3315	4.3 ABCD	3
Unisouth	3404	1.5 ABCD	2	GroMark	FSX 856	4.4 ABCD	3
DynaGro	WX13622	1.5 ABCD	2	Southern States	520	4.4 ABCD	3
Mercer Brand	12-W-270	1.6 ABCD	2	DynaGro	Yorktown	4.7 ABCD	3
Agrimaxx	415	1.6 ABCD	2	MD Exp.	MD04W249-11-12	4.7 ABCD	3
Unisouth	3523	1.8 ABCD	2	Syngenta	SY007	4.9 ABCD	3
Southern States	8360	1.8 ABCD	2	DynaGro	9171	5.2 ABCD	3
Agrimaxx	427	2.0 ABCD	2	Agrimaxx	Exp. 413	5.3 ABCD	3
Ga Exp	Ga-04434-11E44	2.0 ABCD	2	Agrimaxx	434	5.6 ABCD	3
MBX	14-S-210	2.2 ABCD	2	Southern States	8412	6.1 ABCD	4
Unisouth	3993	2.2 ABCD	2	Featherstone	73	6.4 ABCD	4
Mercer Brand	12-W-296	2.3 ABCD	2	GroMark	FSX 852	6.6 BCD	4
DynaGro	9012	2.3 ABCD	2	Mercer Brand	12-V-258	6.7 BCD	4
Public	Jamestown	2.3 ABCD	2	Southern States	8500	8.1 BCD	4
Syngenta	SY1526	2.4 ABCD	2	Unisouth	3013	9.8 D	5

Table 1. Ratings of 57 Varieties included in the University of Delaware wheat variety trials in 2014. The site located in Marydel, Delaware was used in this test. Ten leaves were rated for disease severity per plot. Each variety was replicated three times. The average area of diseased leaves (severity) was calculated for each plot by averaging the severity ratings for the ten leaves sampled. Data were log transformed for normality and statistically analyzed using JMP Pro v.11 (SAS Institute Inc.). **Different letters indicate significant disease differences using Fishers Protected LSD ($\alpha=0.10$).** Ratings are provided on a 1-5 scale with 1= high resistance and 5=low resistance to Stagonospora leaf and glume blotch.