Results of a survey of Michigan growers to identify wheat varieties being grown and extent to which genetic resistance to Fusarium head blight is being utilized, 2016

A survey of Michigan (MI) wheat growers was conducted during 2016 with the encouragement of the *U.S. Wheat and Barley Scab Initiative* and the help of the *MI Wheat Program*. Grower participation was solicited during various educational events and through the use of newsletter and media articles. Growers could respond using a physical form, email or an internet survey instrument.

There were 185 growers that provided the specific varieties they grew during the 2016 season. The combined responses totaled 12,331 acres of soft white winter wheat (SWW) and 19,455 acres of soft red winter (SRW), representing 5.4 percent and 5.8 percent of the two sub-class's 2016 acreage respectively.

The varieties and their corresponding acres are provided in Table 1. Included in the table is an estimate of the relative susceptibility of each variety to Fusarium head blight (FHB). The relative ranking is indicated with VS, S, MS and MR denoting very susceptible, susceptible, moderately susceptible, and moderately resistant respectively. The percent of acres within each susceptibility score is given in the fourth column.

It is useful to compare these responses to that of a variety survey conducted five years ago (*Soft winter wheat varieties grown in Michigan, 2011*). Assigning FHB susceptibility scores to these varieties reveals that 91 percent of the 2011 SRW acreage was planted to an S-ranked variety and there were no MR varieties. This is in stark contrast to the results of the 2016 survey which suggests that acreage using S varieties was reduced to 30 percent and, further, MR varieties were utilized on 22 percent of the acreage.

This marked and encouraging trend toward the use of more resistant SRW varieties is not mirrored within the SWW subclass. Comparing the 2011 and 2016 surveys, there has been no significant change in the use of improved FHB resistance lines. Based on the 2011 study, 79 percent of SWW acreage hosted VS or S varieties. The 2016 survey suggests that 78 percent of the SWW acreage grew VS or S varieties (31 and 47 percent respectively).

This lack of progress within SWW acreage is partly due to the sustained popularity of some cultivars (most notably Ambassador) because of their high yield potential. Nevertheless, growers are increasingly aware of their vulnerability to FHB and will readily switch to more resistant varieties provided grain yields are not compromised. During the next five-year span, significant progress is anticipated as both the private and public sectors are working diligently to introduce high yielding, FHB resistant SWW varieties.

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Table 1: Wheat varieties grown and their relative susceptibility to FHB
grower survey, Michigan, 2016

Soft white winter varieties	reported acres	FHB* score	acres (%)
Ambassador	3572	VS	31%
Skeet Safety	115	VS	
Jupiter	1954	S	47%
AC Mountain	1889	S	
Aubrey	750	S	
Pioneer 25W36	370	S	
E6012	172	S	
Venus	85	S	
DynaGro 9242W	2230	MS	24%
Pioneer 25W43	679	MS	
Syngenta 901	350	MS	
Pioneer 25W31	100	MS	
DynaGro 9353W	65	MS	
total SWW	*12331*		

Soft red winter varieties	reported acres	FHB* score	acres (%)
Pioneer 25R40	1885	S	30%
Wellman 206	630	S	
Hopewell	590	S	
Shirley	586	S	
DynaGro 9243	456	S	
Pioneer 25R47	420	S	
Red Ruby	390	S	
Pioneer 25R62	320	S	
Whale	290	S	
DF 109R	222	S	
Agrimax 438	112	S	
DF 045	50	S	
SC1342	15	S	
DynaGro 9522	14	S	
Branson	2592	MS	47%
Red Devil	1290	MS	
AgriMax 413	1035	MS	
DynaGro 9223	739	MS	
Pioneer 25R39	679	MS	
DF 105R	650	MS	
Sienna	525	MS	
Rupp 907	480	MS	
Sunburst	434	MS	
DynaGro 9171	173	MS	
AgriMax 444	140	MS	
DynaGro 9053	100	MS	
DynaGro 9042	100	MS	
Wellman 123	85	MS	
MCIA Roane	80	MS	
Pioneer 25R50	20	MS	
Red Dragon	2631	MR	22%
DF 112R	849	MR	
Pioneer 25R25	447	MR	
Agrimax 415	220	MR	
Steyer Hunker	120	MR	
L334	55	MR	
Rupp 972	31	MR	
total SRW	*19455*		

* relative susceptibility scores of VS, S, MS, MR denote very susceptible, susceptible, moderatly susceptible, and moderately resistant varieties, respectively.