

# Michigan State Wheat Performance Trials: 2012

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## Comments on the 2012 Wheat Crop

Generally wheat fields were planted on time with some planted later in 2011 due to the late harvest of the row crops. Mild winter conditions resulted in minimal losses over the winter across Michigan. High temperatures in March (day temperatures over 80 and night temperatures over 60) hastened the development of the crop. Flowering was several weeks earlier than usual due to the warm March temperatures. These early warm temperatures also shortened the height of the wheat. The cold freeze in April caused some leaf damage and sterility. Several diseases were evident this year including powdery mildew, leaf blotches (see below for more information), barley yellow dwarf virus, leaf rust, glume blotch, stripe rust and Fusarium head blight. Stripe rust appeared in several parts of the state this year. Dry conditions during flowering resulted in a low incidence of Fusarium head blight (scab) in the majority of the state. Army worms were a concern but were reported infrequently. Conditions during harvest were dry for most of the state. The USDA/NASS office reported on July 1 a state wide average yield projection of 72 bushels per acre.

## Multi-Year Performance Summary (Tables 1 - 5)

Tables 1 through 5 summarize performance of the trial. The full trial included 92 entries (38 of which were experimental lines) from 21 organizations, including Michigan State University, and data analyses were conducted using all of these entries. For ease of viewing, two versions of the report are available. The “commercial only” version (available online and in the “Michigan Farm News” publication) includes the data of 54 commercially available varieties from 18 organizations only. The “including experimentals” version (online only) includes all 92 commercial and experimental lines. Attached to this narrative is a list of the names and contact information for those organizations. Each line in these tables has data for a single entry. The columns contain averages for a given trait and time period. Data for all of the entries in this trial are not presented here. However, the averages and statistical parameters in this report are based on the entire set of evaluated materials. **Comparisons among entries are only valid within a column** (not across columns for a single trait). Tables 1 through 5 are sorted first by entry grain color, and then in descending order by yield for 2012. In some instances (e.g. yield), data columns to the right of the 2012 data columns are multi-year averages. Only data for entries included in all of the relevant years’ tests are found here. Not all entries have been tested in all years, so the tables have several blank cells. See the section titled ‘Experimental’ for details on how the trials were conducted and for more detail on what the data in each column represents.

At the bottom of most columns in the tables is the trial average (mean), LSD (least significant difference), and CV (coefficient of variation) for data in that column. LSD values vary among traits and data sets (combinations of sites and years). Differences between the means for two entries that are greater than the LSD for that column are very likely to reflect a genuine difference between the two varieties. If the difference between two means is smaller than the LSD for that column, one should conclude that there is **no evidence that those entries are different for that trait** in the years and sites considered. The CV is indicative of a trial’s precision. Trials with low levels of error variation have lower CV values. Traits for which scores on a 0-9 scale are employed generally have very high CV values.

## Single Site Yield Performance Summary (Table 6)

Table 6 contains yield (adjusted to 13.5% moisture), test weight, and harvest moisture data from each of the six sites harvested for yield in 2012. Each row in the table represents a single entry in the test. It is recommended that single site / single year data should not be used to make variety choice decisions. Table 6 is sorted first by organization and then by variety or brand name.

## Choosing Varieties

Growers should be aware that the grain of varieties with equal yield and test weight are not necessarily of equal value when delivered for sale. DON content and shriveled grain can result in significant discounts at the point of sale. This report provides across site and single site data for test weight which gives some indication of the degree to which a variety avoided shriveled grain. It is, however, possible for two varieties to have identical and acceptable test weight but differ in degree of grain shriveling.

Although wheat producers are always interested in how varieties perform in a given year and location, performance in a single year and location should never be used in selecting a variety to plant. It is best to select a variety on the basis of data from at least three years of testing. Varieties selected with such comparisons are more likely to perform well under a wide range of conditions. In any given year or at any given site, several varieties will usually fall into the group of 'highest yielding' varieties. The composition of that group, and the identity of the absolute "winner", can and does change from location to location and year to year. This means that the single best variety cannot be determined in advance for a specific site. However, you can identify a group of varieties that is likely to contain the winners in the upcoming season. We recommend that you plant two or more varieties, and where possible, choose varieties which will flower at different times in order to reduce the risk of scab infection which is most likely to occur when rain coincides with flowering.

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## Experimental

The 2012 State Wheat Performance Trial entries were planted at seven sites in 6 counties: Allegan, Huron, Ingham (2), Lenawee, Sanilac, and Tuscola. Appendix A (below) presents information on each of these sites. Each plot was 6 rows at 7.5" row spacing and was planted to a length of 18 feet. Plots were trimmed to a length of 12 feet long in the spring for harvesting purposes. The trial was designed and executed as four replication alpha-lattice (23 blocks of 4 plots each) at all sites. All seed was treated, but the chemicals and rates used varied according to the preferences of the originating organization. Seeding rates per linear foot of row were standardized to the rate that would equate with a stand of 2.0 million seeds per acre in a solid stand planted in 7.5" rows. Fall fertilizer application varied with cooperator practice. Spring nitrogen was applied as urea (90 lbs/acre actual N) at green-up. No foliar fungicides were applied at any site. Weeds were chemically controlled as needed. All plots at a site were harvested on a single day. For all sites, yield was calculated using the entire area of the plot including the wheel tracks between plots. This approach tends to underestimate yield. For data reported on a 0-9 scale, 0 is the best possible score.

Table 1 contains data for yield, test weight, and grain moisture. These data were acquired electronically on the plot combine at the time of harvest. Yield data is standardized to 13.5% moisture. In addition, grain color, chaff color and degree of awnedness are indicated. For degree of awnedness, "tip awned" (known as "apically awnletted" elsewhere, awns only present at the tip of the spike), "awnletted" (short awns on the spike), or "awned" (long awns on the entire spike) were indicated. Prior to 2009, "tip awned" and "awnletted" were recorded as "awnless".

Table 2 contains data for flowering date, plant height, powdery mildew, septoria leaf blotch, freeze injury, black point, and lodging. Lodging data are reported from prior years. The flowering date indicates the average number of days past January 1st that a given entry reached the point where ½ of its heads were flowering. Plant height is reported as the distance in inches from the ground to the tip of average heads in a plot. Powdery mildew and leaf blotch scores are recorded as "0 = no visual symptoms of disease present". Powdery mildew scores are based on observations of the entire plant including the flag leaf. The causal organism(s) of the leaf blotching were not identified,

but were likely a combination of *Septoria tritici* and *Stagonospora nodorum*. Freeze injury scores are from Sanilac site where zero indicates no injury. Black point is reported on a percentage basis (percent of seeds with visible black point). Black point is the discoloration of the embryo (germ) end and surrounding areas of the wheat kernel. The embryo tip shows a black to brown discoloration that may extend into the crease of the kernel. Visual observations consisted of 500 seed lots from one rep at each location observed. The data presented is the average percent of kernels discolored from the 2011 harvest season.

Table 3 contains data for stripe rust, leaf rust, stem rust, Fusarium head blight (FHB, scab) and the associated mycotoxin deoxynivalenol (DON, VOM). Scab data were obtained from the Ingham misted/inoculated scab screening nursery. 2012 FHB data are scores based upon a 0-5 score where 0 indicates no visible symptoms. The Ingham scab nursery was inoculated (from lab-produced infected grain spread onto the field), and artificial misting was employed throughout the entire flowering period. Each wheat head (i.e., 'spike') is comprised of roughly 14-22 "spikelets", which bear the developing seed. Spikelets that prematurely die because of scab infection are called "scabby" spikelets. Field symptom data reported here are based on: 1) the percent of spikes showing any scabby spikelets (incidence); 2) the percent of scabby spikelets within infected spikes (severity); and 3) the percent of scabby spikelets considering all spikes (scab index). The scab index is derived from multiplying the incidence and severity, and is a measure of the extent of damage to entire plots due to scab infection. Unusually hot and dry natural conditions resulted in the field drying quickly between misting events, and low levels of symptoms were observed this year in the inoculated trial. Deoxynivalenol data is from harvested grain in the inoculated, mist irrigated, scab screening nursery and is reported in parts per million (ppm). The grain was analyzed for DON at the University of Minnesota using gas chromatography mass spectrometry, DON data is from the 2011 and prior crop years. Stem rust data are reported from 2009. Stripe, leaf and stem rust scores are based primarily on infection observations on the flag leaf.

Table 4 through 5 contain data for milling and baking quality. Quality data are from the 2011 harvest season and prior. Data were generated by the USDA Eastern Soft Wheat Quality Laboratory in Wooster, Ohio on grain harvested from the State Variety trial each year. Flour yield is the ratio of the weight of extractable flour to the weight of milled grain, expressed as a percentage. Softness equivalent percent is the softness of the flour, with higher values indicating softer grained wheats. The quality lab test weight is not identical to the test weight at harvest due to grain drying and grain cleaning prior to quality laboratory test weight evaluation. Solvent Retention Capacity (SRC) can be conducted on flour using several different solvents and reflects different characteristics of flour quality. Water SRC is correlated to and intended to predict Farinograph water absorption. Sucrose SRC is a measure of pentosan content, which can strongly affect water absorption in baked products. Soft wheat flours for cookies typically have a target of 95% or less when used by the US baking industry for biscuits and crackers. Sodium carbonate SRC increases as starch damage due to milling increases. Normal values for good milling soft varieties are 68% or less. Lactic acid measures gluten strength with "weak" soft varieties having values below 85% and strong gluten soft varieties having values, typically, above 105% or 110%. For cookie diameter, a larger diameter is better. Whole grain protein (%) and whole grain hardness are being reported with 0-100, and higher values indicating harder wheat.

Table 6 contains yield, test weight and percent moisture from each location for each entry. These entries are sorted first by cooperating organization, and then by the entry name.

Six of our experimental sites are on private farmland. We are extremely grateful to those growers for accommodating our work and all of the associated inconveniences. Questions and comments regarding the research reported here should be directed to Russ Freed (517-355-0271 ext. 1187). This information, along with results from previous years, may also be accessed through the Web at [http://www.css.msu.edu/varietytrials/wheat/Variety\\_Results.html](http://www.css.msu.edu/varietytrials/wheat/Variety_Results.html).

# 2012 Michigan State University Wheat Performance Trials (Commercially Available Only)

Multi-year data are the most informative.

**Table 1 : Multi-Year Performance Summary (Note: Tables sorted by 2012 Yield, red wheats grouped before white)**

MSU makes no endorsement of any variety or brand.

Name	Grain Color Chaff Color Awns			Yield: Bushels/Acre (Adjusted to 13.5% Moisture)				Test Weight: lbs/Bushel				Percent Grain Moisture at Harvest				Organization
				Multi-Year Averages				Multi-Year Averages				Multi-Year Averages				
				2012	2 YR	3 YR	4 YR	2012	2 YR	3 YR	4 YR	2012	2 YR	3 YR	4 YR	
					2011-12	2010-12	2009-12		2011-12	2010-12	2009-12		2011-12	2010-12	2009-12	
Pioneer Brand 25R40	Red	White	Awned	98.8	----	----	----	60.6	----	----	----	13.4	----	----	----	Dupont Pioneer
Pioneer Brand 25R34	Red	White	Awned	96.8	95.5	----	----	58.8	59.0	----	----	13.9	14.0	----	----	Dupont Pioneer
RS972	Red	White	Tip Awned	96.7	----	----	----	59.0	----	----	----	14.1	----	----	----	Rupp Seeds, Inc
RS979	Red	White	Tip Awned	94.2	----	----	----	58.2	----	----	----	13.9	----	----	----	Rupp Seeds, Inc
DF105R	Red	White	Awned	94.0	93.9	----	----	59.1	59.1	----	----	13.0	12.7	----	----	D.F. Seeds, Inc.
9223	Red	White	Tip Awned	93.9	----	----	----	58.9	----	----	----	13.7	----	----	----	Dyna-Gro Seed
DF 109R	Red	White	Tip Awned	93.8	----	----	----	58.7	----	----	----	13.9	----	----	----	D.F. Seeds, Inc.
RS967	Red	White	Awned	93.6	93.0	93.1	----	60.4	60.8	60.2	----	13.2	13.3	13.4	----	Rupp Seeds, Inc
Marion	Red	White	Tip Awned	93.3	----	----	----	59.7	----	----	----	13.0	----	----	----	Steyer Seeds
Shirley	Red	White	Awnletted	93.0	93.5	----	----	58.5	58.4	----	----	13.6	14.4	----	----	Dyna-Gro Seed
W125	Red	White	Tip Awned	92.3	----	----	----	58.7	----	----	----	13.0	----	----	----	Wellman Seeds, Inc.
MCIA Red Dragon	Red	White	Awnletted	92.2	91.7	91.0	----	58.3	58.9	58.5	----	13.0	13.2	13.3	----	Michigan Crop Improvement Association
Sunburst	Red	White	Tip Awned	91.8	92.0	91.2	92.6	62.2	60.7	60.6	60.6	14.5	13.7	14.2	14.7	Michigan Crop Improvement Association
W208	Red	White	Awnletted	91.8	----	----	----	59.2	----	----	----	14.5	----	----	----	Wellman Seeds, Inc.
AgriMAXX 413	Red	White	Awned	91.4	----	----	----	59.3	----	----	----	13.0	----	----	----	AgriMAXX Wheat Company
DF55	Red	White	Tip Awned	91.0	88.9	88.4	90.0	59.8	59.7	59.2	59.1	13.4	13.6	13.7	14.1	D.F. Seeds, Inc.
RS935	Red	White	Awned	90.5	91.0	91.2	----	59.1	59.0	58.3	----	13.1	12.9	12.9	----	Rupp Seeds, Inc
Pioneer Brand 25R39	Red	White	Tip Awned	90.4	90.7	88.0	89.2	60.0	60.1	59.0	58.8	13.5	13.8	13.9	14.2	Dupont Pioneer
W123	Red	White	Awnletted	90.4	92.1	89.8	----	58.6	59.0	58.4	----	13.2	13.0	13.1	----	Wellman Seeds, Inc.
9042	Red	White	Awnletted	90.2	91.2	90.1	----	59.6	59.7	59.1	----	13.1	13.1	13.3	----	Dyna-Gro Seed
MCIA Red Devil	Red	White	Awned	89.8	91.9	92.9	----	60.3	60.4	59.8	----	13.7	13.8	13.9	----	Michigan Crop Improvement Association
Sienna	Red	White	Awnless	89.6	93.3	----	----	58.4	58.9	----	----	13.0	13.1	----	----	Direct Enterprises
Diener 492W	Red	White	Awned	89.5	----	----	----	58.8	----	----	----	13.0	----	----	----	BioTown Seeds
W124	Red	White	Awnletted	89.1	90.0	----	----	60.5	60.7	----	----	13.2	13.1	----	----	Wellman Seeds, Inc.
9053	Red	White	Awned	88.9	88.6	----	----	58.5	58.1	----	----	12.9	12.9	----	----	Dyna-Gro Seed
Pioneer Brand 25R32	Red	White	Awned	88.8	87.6	----	----	61.2	61.1	----	----	13.3	13.3	----	----	Dupont Pioneer
Merl	Red	White	Tip Awned	88.4	89.6	86.6	88.6	60.9	60.8	60.2	60.0	14.3	14.4	14.4	14.7	Virginia Crop Improvement Association / Virginia Tech
9922	Red	White	Awned	88.4	91.1	91.2	----	60.2	60.1	59.6	----	13.5	13.8	14.0	----	Dyna-Gro Seed
W1104	Red	White	Tip Awned	88.3	91.2	90.7	----	58.7	59.0	58.2	----	13.3	13.6	13.6	----	Syngenta
MCIA Butch	Red	White	Awnletted	87.6	89.3	88.8	89.7	58.5	58.5	57.5	57.2	13.1	13.0	13.0	13.2	Michigan Crop Improvement Association
Attack	Red	White	Awnletted	87.5	----	----	----	59.2	----	----	----	13.4	----	----	----	D.F. Seeds, Inc.
Hopewell	Red	Bronze	Awnletted	87.4	88.2	88.6	90.0	59.9	60.3	59.4	59.0	13.5	13.6	13.7	13.8	Michigan Crop Improvement Association
Red Ruby	Red	White	Awned	86.2	88.1	88.7	91.0	60.4	60.6	59.8	59.4	13.1	13.2	13.5	14.0	Michigan Crop Improvement Association
Quest	Red	White	Awnletted	85.0	85.3	----	----	58.1	58.5	----	----	12.8	12.9	----	----	Direct Enterprises
DF75	Red	White	Tip Awned	84.8	85.5	84.3	87.1	60.1	60.1	59.3	59.2	13.6	13.7	13.7	14.2	D.F. Seeds, Inc.
Malabar	Red	White	Awnletted	83.9	87.3	87.3	88.9	59.7	60.1	59.6	59.2	13.3	13.4	13.5	13.7	Ohio Seed Improvement Association
Emmit	Red	White	Awnletted	80.9	85.9	86.0	88.1	58.8	59.0	58.5	58.4	14.0	14.4	14.5	14.7	Hyland Seeds
HY116-SRW	Red	White	Awnletted	80.4	84.8	84.2	85.6	58.1	58.7	58.0	57.9	13.5	13.5	13.5	13.7	Hyland Seeds

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				Multi-Year Averages				Multi-Year Averages				Multi-Year Averages				
				2012	2 YR 2011-12	3 YR 2010-12	4 YR 2009-12	2012	2 YR 2011-12	3 YR 2010-12	4 YR 2009-12	2012	2 YR 2011-12	3 YR 2010-12	4 YR 2009-12	
9242W	White	White	Awnletted	89.3	87.6	-----	-----	60.0	60.1	-----	-----	13.3	13.3	-----	-----	Dyna-Gro Seed
Ambassador	White	White	Awnletted	89.1	88.2	88.7	90.9	58.2	58.4	57.9	57.3	12.9	12.8	13.0	13.0	D.F. Seeds, Inc. / Cooperative Elevator Co.
AC Mountain	White	White	Awnletted	87.8	87.5	86.0	87.7	57.6	58.1	57.9	57.6	13.2	13.1	13.2	13.3	Michigan Crop Improvement Association
Pioneer Brand 25W43	White	White	Tip Awned	87.2	86.9	85.4	87.7	59.3	59.1	58.4	57.9	13.4	13.4	13.4	13.6	Dupont Pioneer
Jupiter	White	Bronze	Awnletted	86.3	87.8	87.6	89.1	58.3	58.6	57.9	57.4	14.1	13.8	13.7	14.0	Michigan Crop Improvement Association
Aubrey	White	White	Awnletted	83.7	84.3	86.3	87.7	59.7	60.7	60.1	59.7	13.4	13.5	13.8	13.9	D.F. Seeds, Inc. / Cooperative Elevator Co. / Farmers Co-op Grain Co.
Ava	White	White	Awnletted	80.8	83.3	83.2	86.6	56.7	57.5	57.0	57.0	16.4	16.4	16.3	16.1	Hyland Seeds
TW319-SWW	White	White	Awnletted	80.5	83.5	84.6	-----	59.9	60.1	59.3	-----	13.4	13.4	13.6	-----	Hyland Seeds
W1062	White	White	Tip Awned	80.1	84.1	84.1	85.8	57.9	58.4	57.8	57.4	14.6	14.9	15.1	15.3	Syngenta
Linebacker	White	White	Awnletted	80.0	84.0	84.0	85.0	57.5	58.0	57.2	56.9	15.1	15.4	16.0	16.0	D.F. Seeds, Inc.
Coral	White	Bronze	Awnletted	79.6	83.1	83.5	86.1	58.0	58.5	58.0	57.9	14.3	14.6	14.8	14.8	Michigan Crop Improvement Association
Caledonia	White	White	Awnletted	78.4	81.7	81.3	83.5	58.3	58.5	57.8	57.4	14.0	13.9	14.0	14.1	Harrington Seeds, Inc.
MSU Line E5024	White	White	Awned	76.6	81.1	82.3	85.2	60.3	60.2	59.5	59.2	13.1	13.5	13.6	14.0	Michigan Crop Improvement Association
MSU D8006	White	White	Awned	76.6	79.4	81.8	84.4	59.2	59.1	58.7	58.2	13.1	13.1	13.2	13.5	Michigan Crop Improvement Association
Envoy	White	White	Awned	75.8	82.4	84.8	86.8	59.8	60.0	59.5	59.2	13.7	13.6	13.7	13.9	Platinum Genetics, LLC
<b>MEAN (2012 = 92 Entries)</b>				<b>87.8</b>	<b>87.8</b>	<b>87.1</b>	<b>87.8</b>	<b>59.5</b>	<b>59.4</b>	<b>58.8</b>	<b>58.4</b>	<b>13.7</b>	<b>13.6</b>	<b>13.8</b>	<b>14.2</b>	
<b>LSD (0.05)</b>				<b>3.8</b>	<b>5.6</b>	<b>4.7</b>	<b>4.0</b>	<b>0.5</b>	<b>1.1</b>	<b>0.9</b>	<b>0.8</b>	<b>0.5</b>	<b>0.7</b>	<b>0.6</b>	<b>0.6</b>	
<b>CV (%)</b>				<b>5.4</b>	<b>3.2</b>	<b>3.3</b>	<b>3.2</b>	<b>1.1</b>	<b>0.9</b>	<b>0.9</b>	<b>1.0</b>	<b>4.1</b>	<b>2.6</b>	<b>2.5</b>	<b>3.2</b>	

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Multi-year data are the most informative.

**Table 2 : Multi-Year Performance Summary (Note: Tables sorted by 2012 Yield, red wheats grouped before white)**

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Name	Grain Color	Flowering Date (Days Past Jan. 1)				Plant Height (Inches)				Powdery Mildew Score (0-9)				Septoria Leaf Blotch Score (0-9)				Freeze Injury Score (0-9) 2012	Black Point Percent 2011	Lodging Score (0-9) (0=none) 2 YR 2009-10
		Multi-Year Averages				Multi-Year Averages				Multi-Year Averages				Multi-Year Averages						
		2 YR	3 YR	4 YR		2 YR	3 YR	4 YR		2 YR	3 YR	4 YR		2 YR	3 YR	4 YR				
		2011-12	2010-12	2009-12	2012	2011-12	2010-12	2009-12	2012	2011-12	2010-12	2009-12	2012	2011-12	2010-12	2009-12	2012			
Pioneer Brand 25R40	Red	142.6	----	----	----	29.1	----	----	----	0.2	----	----	----	1.0	----	----	----	0.7	----	----
Pioneer Brand 25R34	Red	141.8	147.6	----	----	31.2	32.6	----	----	5.1	4.6	----	----	1.1	2.1	----	----	1.9	6.2	----
RS972	Red	143.1	----	----	----	31.0	----	----	----	4.2	----	----	----	1.3	----	----	----	1.1	----	----
RS979	Red	141.6	----	----	----	30.5	----	----	----	4.8	----	----	----	2.6	----	----	----	0.6	----	----
DF105R	Red	141.2	147.5	----	----	28.6	30.6	----	----	5.5	4.1	----	----	3.6	4.6	----	----	1.5	22.8	----
9223	Red	143.5	----	----	----	31.8	----	----	----	4.6	----	----	----	2.0	----	----	----	2.1	----	----
DF 109R	Red	143.7	----	----	----	31.2	----	----	----	2.8	----	----	----	1.9	----	----	----	1.3	----	----
RS967	Red	141.6	147.4	147.3	----	30.1	31.5	32.9	----	1.0	2.2	2.1	----	1.1	2.0	1.9	----	0.8	18.5	----
Marion	Red	142.0	----	----	----	30.0	----	----	----	0.6	----	----	----	4.0	----	----	----	0.0	----	----
Shirley	Red	142.9	148.8	----	----	28.1	29.9	----	----	0.0	0.0	----	----	2.7	2.7	----	----	0.8	37.3	----
W125	Red	142.3	----	----	----	33.9	----	----	----	2.3	----	----	----	2.5	----	----	----	0.3	----	----
MCIA Red Dragon	Red	142.3	147.7	147.2	----	33.8	36.1	36.4	----	0.1	0.4	1.4	----	1.0	3.1	2.9	----	1.3	8.1	----
Sunburst	Red	143.1	148.2	148.5	150.9	27.4	30.7	31.0	31.8	0.1	1.0	0.9	0.8	1.9	2.2	2.6	2.8	1.9	13.2	3.0
W208	Red	143.2	----	----	----	34.0	----	----	----	0.1	----	----	----	1.8	----	----	----	4.7	----	----
AgriMAXX 413	Red	141.1	----	----	----	30.1	----	----	----	3.6	----	----	----	4.1	----	----	----	0.7	----	----
DF55	Red	142.8	148.8	148.4	150.6	31.1	32.5	33.3	35.3	0.0	0.7	0.9	1.1	3.1	3.4	3.1	3.1	1.6	20.1	6.5
RS935	Red	141.5	147.8	147.5	----	28.8	30.2	31.1	----	3.8	3.6	3.1	----	2.6	3.8	3.4	----	0.4	33.3	----
Pioneer Brand 25R39	Red	143.3	149.2	149.3	151.6	30.3	32.3	33.1	35.0	3.3	2.8	3.4	3.5	2.6	3.8	3.3	3.3	0.0	5.2	5.8
W123	Red	141.3	147.2	147.1	----	33.7	33.4	33.6	----	3.1	1.4	1.4	----	2.3	3.4	2.9	----	1.6	22.9	----
9042	Red	141.9	148.1	148.0	----	29.9	31.2	31.4	----	3.7	2.8	2.7	----	4.3	3.5	2.9	----	0.6	11.3	----
MCIA Red Devil	Red	142.3	148.1	147.7	----	30.3	33.0	33.4	----	1.1	1.1	0.8	----	1.3	1.6	1.7	----	2.5	30.6	----
Sienna	Red	142.3	147.8	----	----	33.8	36.9	----	----	0.6	0.7	----	----	2.1	2.6	----	----	2.5	11.1	----
Diener 492W	Red	142.1	----	----	----	28.8	----	----	----	2.9	----	----	----	2.1	----	----	----	0.4	----	----
W124	Red	142.3	147.8	----	----	32.7	34.5	----	----	3.1	2.5	----	----	1.4	2.9	----	----	0.5	35.8	----
9053	Red	142.7	148.6	----	----	30.0	31.8	----	----	6.1	4.1	----	----	3.2	4.2	----	----	1.1	24.4	----
Pioneer Brand 25R32	Red	142.6	148.5	----	----	29.6	31.6	----	----	0.2	1.6	----	----	2.4	2.5	----	----	0.7	18.6	----
Merl	Red	140.7	146.8	146.7	148.8	31.0	32.4	32.4	33.9	0.0	1.1	1.1	1.0	4.3	3.6	3.6	3.3	4.4	19.9	5.7
9922	Red	142.1	148.2	147.9	----	29.7	32.7	33.5	----	0.4	1.2	0.9	----	2.8	2.4	2.2	----	3.4	14.6	----
W1104	Red	143.3	148.8	148.4	----	30.6	32.7	33.3	----	0.0	0.0	0.4	----	2.0	3.0	2.6	----	0.9	23.2	----
MCIA Butch	Red	143.1	148.8	148.4	150.8	27.7	30.1	30.9	32.0	0.1	1.3	1.5	1.6	2.3	2.4	2.6	2.7	0.2	6.8	3.9
Attack	Red	144.2	----	----	----	34.2	----	----	----	4.9	----	----	----	2.8	----	----	----	1.4	----	----
Hopewell	Red	143.8	149.4	148.9	151.1	32.4	33.7	34.4	35.7	0.3	0.9	1.4	1.7	4.4	5.0	3.9	3.5	1.2	5.3	2.9
Red Ruby	Red	143.0	148.8	148.8	151.0	31.1	32.9	33.9	35.4	1.8	1.1	1.6	1.8	4.4	4.8	3.6	3.4	0.5	8.8	4.0
Quest	Red	143.4	148.9	----	----	31.6	33.3	----	----	1.9	2.8	----	----	6.1	5.4	----	----	2.3	6.4	----
DF75	Red	142.2	147.8	147.6	149.9	31.3	32.4	32.6	34.1	6.1	5.3	4.7	4.6	4.8	4.9	4.1	3.7	1.1	29.2	3.5
Malabar	Red	145.1	149.3	149.0	151.0	32.7	35.1	35.8	37.2	1.1	0.6	1.4	1.7	3.8	4.6	3.8	3.4	0.5	5.3	2.9
Emmit	Red	144.9	150.1	149.7	151.8	31.3	34.3	35.0	36.7	0.4	1.9	2.6	2.7	3.2	3.3	3.0	3.0	0.7	46.0	4.5
HY116-SRW	Red	145.3	150.2	150.0	152.0	31.7	34.8	35.2	36.9	0.3	1.1	0.7	0.8	2.1	2.3	2.0	1.9	0.6	18.5	5.9

# 2012 Michigan State University Wheat Performance Trials (Commercially Available Only)

Multi-year data are the most informative.

**Table 2 : Multi-Year Performance Summary (Note: Tables sorted by 2012 Yield, red wheats grouped before white)**

MSU makes no endorsement of any variety or brand.

Name	Grain Color	Flowering Date (Days Past Jan. 1)				Plant Height (Inches)				Powdery Mildew Score (0-9)				Septoria Leaf Blotch Score (0-9)				Freeze Injury Score (0-9) 2012	Black Point Percent 2011	Lodging Score (0-9) (0=none) 2 YR 2009-10
		Multi-Year Averages				Multi-Year Averages				Multi-Year Averages				Multi-Year Averages						
		2 YR	3 YR	4 YR		2 YR	3 YR	4 YR		2 YR	3 YR	4 YR		2 YR	3 YR	4 YR				
		2012	2011-12	2010-12	2009-12	2012	2011-12	2010-12	2009-12	2012	2011-12	2010-12	2009-12	2012	2011-12	2010-12	2009-12			
9242W	White	142.8	148.4	-----	-----	30.7	33.1	-----	-----	0.6	1.2	-----	-----	1.7	2.3	-----	-----	0.1	48.2	-----
Ambassador	White	141.6	147.7	147.5	149.8	31.2	33.0	34.1	35.7	0.0	0.1	1.1	1.4	6.4	6.0	4.8	4.3	0.9	8.2	5.5
AC Mountain	White	145.5	150.2	149.9	151.7	34.5	35.5	36.5	38.6	0.0	1.6	2.0	2.5	2.9	4.1	3.4	3.3	0.8	29.6	5.3
Pioneer Brand 25W43	White	142.3	148.0	147.7	150.1	29.5	31.3	31.9	33.5	4.9	3.9	3.7	4.0	3.2	3.1	2.8	2.9	0.0	9.7	5.8
Jupiter	White	145.1	150.2	149.9	151.9	30.3	31.7	31.9	33.6	0.1	1.2	1.3	1.4	5.6	6.1	4.9	4.4	1.8	7.4	5.3
Aubrey	White	141.8	147.6	147.3	149.3	32.3	34.1	34.7	36.5	0.0	0.3	0.5	0.7	4.3	3.9	3.3	3.1	1.5	28.6	4.0
Ava	White	146.2	151.2	151.0	152.9	34.5	36.4	36.4	38.5	0.0	0.7	1.4	1.8	1.7	2.8	2.7	2.9	1.5	47.0	4.6
TW319-SWW	White	145.8	150.7	150.3	-----	33.7	35.7	36.6	-----	0.3	1.4	1.9	-----	2.4	2.3	2.0	-----	1.9	25.8	-----
W1062	White	144.3	149.7	149.3	151.5	31.6	33.5	34.1	36.1	2.5	1.7	2.2	2.4	2.6	3.0	2.7	2.8	1.0	15.4	5.9
Linebacker	White	145.4	150.6	150.1	152.1	33.0	34.6	35.6	37.3	0.8	2.5	3.0	3.2	2.1	3.3	3.0	3.2	1.5	11.6	5.2
Coral	White	146.1	150.9	150.5	152.4	33.2	34.9	35.7	37.2	1.0	2.5	2.8	3.1	2.1	2.9	2.7	2.9	2.1	11.5	5.3
Caledonia	White	144.5	149.9	149.5	151.5	30.3	32.4	33.4	35.2	1.1	2.1	2.5	2.6	2.8	4.0	3.4	3.3	1.3	12.8	4.6
MSU Line E5024	White	145.3	150.2	150.0	152.2	28.3	30.3	31.0	32.7	1.0	1.3	1.0	0.9	5.6	4.5	3.8	3.4	0.5	14.3	4.5
MSU D8006	White	142.5	148.4	148.0	150.2	32.1	34.1	35.0	36.5	1.6	2.3	2.3	2.2	6.1	4.8	4.0	3.8	1.2	30.3	5.3
Envoy	White	144.2	149.7	149.5	151.6	29.9	31.7	33.2	34.5	1.6	0.8	0.8	1.2	3.9	4.4	3.7	3.5	3.0	8.7	3.8
<b>MEAN (2012 = 92 Entries)</b>		<b>142.9</b>	<b>148.8</b>	<b>148.7</b>	<b>151.1</b>	<b>31.2</b>	<b>33.0</b>	<b>33.7</b>	<b>35.4</b>	<b>1.6</b>	<b>1.9</b>	<b>1.9</b>	<b>2.1</b>	<b>2.7</b>	<b>3.5</b>	<b>3.1</b>	<b>3.2</b>	<b>1.3</b>	<b>18.3</b>	<b>4.8</b>
<b>LSD (0.05)</b>		<b>0.9</b>	<b>1.4</b>	<b>1.0</b>	<b>0.8</b>	<b>1.4</b>	<b>1.9</b>	<b>1.5</b>	<b>1.3</b>	<b>1.7</b>	<b>3.0</b>	<b>1.9</b>	<b>1.4</b>	<b>1.3</b>	<b>2.0</b>	<b>1.7</b>	<b>1.3</b>	<b>1.2</b>	<b>23.9</b>	<b>1.9</b>
<b>CV (%)</b>		<b>0.5</b>	<b>0.5</b>	<b>0.4</b>	<b>0.4</b>	<b>3.5</b>	<b>2.8</b>	<b>2.8</b>	<b>2.6</b>	<b>77.7</b>	<b>78.9</b>	<b>62.1</b>	<b>47.2</b>	<b>29.0</b>	<b>29.1</b>	<b>32.4</b>	<b>29.2</b>	<b>79.8</b>	<b>65.5</b>	<b>20.1</b>

# 2012 Michigan State University Wheat Performance Trials (Commercially Available Only)

Multi-year data are the most informative.

**Table 3 : Multi-Year Performance Summary (Note: Tables sorted by 2012 Yield, red wheats grouped before white)**

MSU makes no endorsement of any variety or brand.

Name	Grain Color	Stripe Rust Score (0-9)				Leaf Rust Score (0-9)		Stem Rust Score (0-9)	FHB SCORE (0-5)	Fusarium Head Blight (Scab) Data : Field Observation Symptoms									DON (ppm) in grain		
		Multi-Year Averages				2 YR	2011-12			Incidence (% of spikes)			Severity (% within spikes)			Index (% overall infection)			Multi-Year Averages		
		2 YR	3 YR	4 YR	2012					2 YR	2011	2 YR	3 YR	2011	2 YR	3 YR	2011	2 YR	3 YR	2011	2 YR
		2012	2011-12	2010-12	2009-12	2012	2011-12			2009	2012	2011	2010-11	2009-11	2011	2010-11	2009-11	2011	2010-11	2009-11	2011
Pioneer Brand 25R40	Red	0.4	----	----	----	1.5	----	----	1.5	----	----	----	----	----	----	----	----	----	----	----	----
Pioneer Brand 25R34	Red	1.7	0.9	----	----	1.0	1.5	----	2.4	12.9	----	----	26.7	----	----	4.8	----	----	0.4	----	----
RS972	Red	0.0	----	----	----	2.7	----	----	2.4	----	----	----	----	----	----	----	----	----	----	----	----
RS979	Red	0.9	----	----	----	1.7	----	----	1.9	----	----	----	----	----	----	----	----	----	----	----	----
DF105R	Red	0.7	0.3	----	----	1.4	1.2	----	1.1	13.1	----	----	21.5	----	----	4.4	----	----	0.9	----	----
9223	Red	1.6	----	----	----	2.0	----	----	1.5	----	----	----	----	----	----	----	----	----	----	----	----
DF 109R	Red	0.2	----	----	----	1.9	----	----	1.4	----	----	----	----	----	----	----	----	----	----	----	----
RS967	Red	7.0	3.5	2.8	----	0.3	0.4	----	1.2	14.2	51.8	----	12.0	26.0	----	3.9	19.8	----	0.2	3.3	----
Marion	Red	0.0	----	----	----	2.8	----	----	1.3	----	----	----	----	----	----	----	----	----	----	----	----
Shirley	Red	6.6	4.5	----	----	2.6	1.8	----	3.2	29.7	----	----	21.7	----	----	8.3	----	----	1.6	----	----
W125	Red	2.7	----	----	----	2.3	----	----	1.4	----	----	----	----	----	----	----	----	----	----	----	----
MCIA Red Dragon	Red	3.0	1.5	1.5	----	2.7	2.6	----	2.0	16.8	52.0	----	39.5	45.6	----	6.7	25.8	----	0.7	6.0	----
Sunburst	Red	0.7	0.4	0.5	0.4	1.4	3.0	0.0	2.0	20.7	54.9	64.4	34.4	37.2	31.7	7.6	21.8	20.8	1.1	5.0	4.3
W208	Red	6.9	----	----	----	1.0	----	----	2.0	----	----	----	----	----	----	----	----	----	----	----	----
AgriMAXX 413	Red	0.0	----	----	----	1.1	----	----	0.8	----	----	----	----	----	----	----	----	----	----	----	----
DF55	Red	5.4	2.8	2.3	1.9	0.6	0.8	0.7	2.2	21.0	57.1	65.7	30.7	37.5	35.5	8.1	24.5	25.6	0.7	4.3	4.1
RS935	Red	0.1	0.1	0.3	----	1.2	1.4	----	1.1	13.2	53.9	----	18.5	29.8	----	4.3	21.4	----	0.7	5.5	----
Pioneer Brand 25R39	Red	0.2	0.8	0.8	0.7	1.4	1.7	0.6	1.6	12.1	50.6	55.5	26.6	42.5	42.7	5.2	28.7	28.8	0.6	5.6	5.4
W123	Red	3.7	1.9	1.5	----	1.9	3.3	----	1.4	19.6	48.8	----	38.3	43.4	----	7.3	22.6	----	0.7	5.8	----
9042	Red	0.0	0.0	0.0	----	4.5	3.5	----	1.2	16.5	52.7	----	14.4	27.8	----	4.3	20.7	----	0.4	4.5	----
MCIA Red Devil	Red	2.1	2.1	1.5	----	0.8	0.8	----	2.0	13.9	51.3	----	14.4	33.9	----	3.5	25.3	----	0.7	6.8	----
Sienna	Red	3.5	1.8	----	----	1.9	2.7	----	1.5	12.4	----	----	37.4	----	----	4.9	----	----	0.6	----	----
Diener 492W	Red	0.4	----	----	----	1.2	----	----	1.5	----	----	----	----	----	----	----	----	----	----	----	----
W124	Red	2.7	1.4	----	----	0.6	1.2	----	2.0	13.1	----	----	30.5	----	----	4.8	----	----	0.6	----	----
9053	Red	2.2	1.1	----	----	2.1	1.9	----	1.9	23.2	----	----	15.0	----	----	5.1	----	----	1.2	----	----
Pioneer Brand 25R32	Red	0.3	0.1	----	----	2.4	3.3	----	0.0	10.8	----	----	2.5	----	----	2.6	----	----	0.0	----	----
Merl	Red	2.4	1.2	1.2	0.9	0.7	1.2	1.8	2.9	20.0	55.1	64.0	36.8	44.0	43.6	7.8	27.1	29.9	0.8	7.8	8.1
9922	Red	1.2	2.9	2.0	----	1.7	1.5	----	2.0	11.0	51.1	----	26.5	37.8	----	3.7	24.2	----	0.3	5.9	----
W1104	Red	0.4	0.3	0.1	----	1.2	1.8	----	1.8	18.0	53.2	----	29.3	38.5	----	6.4	24.3	----	1.0	6.1	----
MCIA Butch	Red	4.9	2.5	2.0	1.6	3.9	4.5	0.9	2.2	26.0	60.2	70.3	39.0	52.0	52.7	10.8	36.1	40.8	1.6	12.2	12.5
Attack	Red	4.2	----	----	----	1.7	----	----	2.0	----	----	----	----	----	----	----	----	----	----	----	----
Hopewell	Red	3.9	1.9	1.4	1.1	3.8	3.5	1.5	1.2	16.6	51.5	62.8	14.5	37.0	36.1	4.1	27.7	28.9	1.1	9.8	9.3
Red Ruby	Red	7.6	5.1	4.4	3.5	3.8	3.5	4.4	1.6	22.7	58.7	71.4	21.0	40.8	38.6	6.2	31.9	32.0	0.9	7.6	7.5
Quest	Red	0.7	0.4	----	----	3.3	2.2	----	1.0	11.9	----	----	19.5	----	----	3.5	----	----	0.3	----	----
DF75	Red	7.6	4.3	4.6	4.0	1.4	1.8	0.8	1.8	23.4	55.4	60.3	32.5	40.9	39.6	9.0	26.1	26.5	1.2	5.6	5.3
Malabar	Red	6.1	3.0	2.8	2.3	3.1	4.8	5.3	1.6	12.1	45.7	55.9	10.9	23.7	22.9	2.5	15.7	15.6	0.2	4.6	4.2
Emmit	Red	7.3	4.5	4.2	3.4	1.7	2.4	1.9	1.3	13.6	47.4	57.1	26.2	41.8	39.7	4.7	25.6	26.4	0.7	6.1	5.2
HY116-SRW	Red	6.2	4.9	3.8	3.0	0.6	0.9	0.0	2.3	24.9	56.2	63.1	14.2	27.3	30.2	4.8	20.0	22.0	0.8	6.0	5.0



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**Table 3 : Multi-Year Performance Summary (Note: Tables sorted by 2012 Yield, red wheats grouped before white)**

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Name	Grain Color	Stripe Rust Score (0-9)				Leaf Rust Score (0-9)		Stem Rust Score (0-9)	FHB SCORE (0-5)	Fusarium Head Blight (Scab) Data : Field Observation Symptoms									DON (ppm) in grain					
		Multi-Year Averages				Multi-Year Averages				Incidence (% of spikes)			Severity (% within spikes)			Index (% overall infection)			Multi-Year Averages					
		2 YR	3 YR	4 YR	2009-12	2 YR	2011-12			2011	2010-11	2009-11	2011	2 YR	3 YR	2011	2 YR	3 YR	2011	2 YR	3 YR	2011	2 YR	3 YR
		2012	2011-12	2010-12	2009-12	2012	2011-12			2009	2012	2011	2010-11	2009-11	2011	2010-11	2009-11	2011	2010-11	2009-11	2011	2010-11	2009-11	2011
9242W	White	5.6	3.8	-----	-----	1.7	1.6	-----	1.6	10.2	-----	-----	8.1	-----	-----	2.4	-----	-----	0.6	-----	-----			
Ambassador	White	7.3	3.6	3.3	2.6	1.7	2.1	4.9	2.7	27.0	56.6	65.8	47.3	59.3	56.7	13.5	37.4	39.1	2.4	11.3	11.3			
AC Mountain	White	6.3	4.9	4.0	3.2	1.6	2.5	4.2	2.6	20.9	49.6	57.4	35.2	51.4	49.1	8.7	30.5	31.0	1.7	9.6	8.7			
Pioneer Brand 25W43	White	3.7	1.9	1.1	0.8	0.8	1.4	0.0	1.3	17.6	51.9	56.4	17.9	32.8	28.6	4.8	23.0	20.5	0.8	5.2	4.8			
Jupiter	White	4.5	2.3	1.6	1.3	2.1	2.4	4.4	1.9	26.5	60.7	72.4	41.7	47.2	46.9	13.6	32.0	36.0	2.1	8.4	8.0			
Aubrey	White	6.0	3.0	2.3	1.7	3.2	2.9	3.9	2.1	28.3	54.9	56.9	27.6	38.3	38.0	9.5	24.8	24.7	1.6	9.1	7.5			
Ava	White	2.0	1.0	1.0	0.7	1.3	1.5	4.0	1.2	19.5	43.9	49.4	28.6	39.6	37.7	6.9	20.3	19.9	0.8	3.0	2.8			
TW319-SWW	White	4.1	2.1	1.6	-----	0.2	0.4	-----	3.1	13.6	52.3	-----	31.7	45.9	-----	5.6	30.1	-----	2.1	11.9	-----			
W1062	White	0.0	0.0	0.0	0.0	0.4	1.0	4.1	2.7	29.2	58.9	69.0	40.3	48.3	44.3	13.4	31.8	31.8	2.1	8.2	7.8			
Linebacker	White	6.1	3.1	2.6	2.1	3.8	3.9	4.4	0.9	10.4	46.1	57.7	33.7	44.7	42.8	4.7	25.4	27.6	1.0	6.1	5.5			
Coral	White	6.8	5.2	4.1	3.4	1.5	1.4	6.1	0.6	20.6	53.6	59.4	32.1	43.0	42.5	8.0	27.4	27.5	1.3	7.6	6.4			
Caledonia	White	6.6	3.4	2.8	2.3	3.2	3.4	5.5	2.0	34.5	61.6	67.0	47.4	56.1	53.4	18.8	38.2	38.9	3.0	13.0	11.9			
MSU Line E5024	White	8.3	5.5	5.0	3.9	0.9	1.2	0.4	0.7	13.5	54.1	66.0	8.0	25.9	26.2	0.9	21.3	22.3	1.4	7.8	6.8			
MSU D8006	White	5.7	2.9	2.2	1.7	0.3	1.4	4.0	1.8	23.4	56.5	63.9	34.5	47.3	43.4	8.7	31.2	30.3	1.7	7.0	6.8			
Envoy	White	7.1	4.4	3.2	2.7	0.0	1.3	4.2	1.7	25.5	59.3	70.3	19.4	36.1	35.6	6.2	27.7	29.4	2.5	9.3	9.2			
<b>MEAN (2012 = 92 Entries)</b>		<b>3.2</b>	<b>2.3</b>	<b>2.2</b>	<b>2.0</b>	<b>1.8</b>	<b>2.1</b>	<b>2.6</b>	<b>1.7</b>	<b>19.1</b>	<b>53.8</b>	<b>62.5</b>	<b>24.8</b>	<b>40.5</b>	<b>40.1</b>	<b>6.3</b>	<b>26.7</b>	<b>28.3</b>	<b>1.1</b>	<b>7.1</b>	<b>6.9</b>			
<b>LSD (0.05)</b>		<b>1.2</b>	<b>3.6</b>	<b>2.5</b>	<b>1.8</b>	<b>1.2</b>	<b>1.8</b>	<b>1.1</b>	<b>0.9</b>	<b>14.2</b>	<b>10.6</b>	<b>10.3</b>	<b>8.4</b>	<b>14.2</b>	<b>9.7</b>	<b>3.9</b>	<b>11.1</b>	<b>8.0</b>	<b>0.4</b>	<b>5.7</b>	<b>3.6</b>			
<b>CV (%)</b>		<b>27.3</b>	<b>77.1</b>	<b>70.6</b>	<b>63.7</b>	<b>52.8</b>	<b>42.1</b>	<b>25.7</b>	<b>38.4</b>	<b>35.8</b>	<b>9.7</b>	<b>10.1</b>	<b>43.8</b>	<b>17.4</b>	<b>14.8</b>	<b>51.2</b>	<b>20.6</b>	<b>17.2</b>	<b>34.0</b>	<b>39.3</b>	<b>31.2</b>			

# 2012 Michigan State University Wheat Performance Trials (Commercially Available Only)

Multi-year data are the most informative.

**Table 4 : Multi-Year Performance Summary (Note: Tables sorted by 2012 Yield, red wheats grouped before white)**

MSU makes no endorsement of any variety or brand.

Name	Grain Color	Milling and Baking Properties (2011 Crop and Earlier)																			
		Percent Flour Yield				Percent Protein In Flour				Softness Equivalent Percent				Cookie Diameter (cm)				Whole Grain Protein %		Whole Grain Hardness (0-100)	
		Multi-Year Averages				Multi-Year Averages				Multi-Year Averages				Multi-Year Averages				2 YR		2 YR	
		2011	2 YR 2010-11	3 YR 2009-11	4 YR 2008-11	2011	2 YR 2010-11	3 YR 2009-11	4 YR 2008-11	2011	2 YR 2010-11	3 YR 2009-11	4 YR 2008-11	2011	2 YR 2010-11	3 YR 2009-11	4 YR 2008-11	2011	2 YR 2010-11	2011	2 YR 2010-11
Pioneer Brand 25R40	Red	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----		
Pioneer Brand 25R34	Red	71.4	----	----	----	6.6	----	----	----	63.6	----	----	----	20.0	----	----	----	7.9	----	6.2	----
RS972	Red	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	
RS979	Red	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	
DF105R	Red	72.2	----	----	----	6.3	----	----	----	60.7	----	----	----	19.9	----	----	----	7.8	----	17.6	----
9223	Red	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	
DF 109R	Red	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	
RS967	Red	69.1	68.8	----	----	7.0	6.7	----	----	61.9	63.2	----	----	19.6	19.5	----	----	9.2	8.6	21.1	21.6
Marion	Red	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	
Shirley	Red	70.2	----	----	----	6.5	----	----	----	57.5	----	----	----	19.8	----	----	----	8.5	----	15.8	----
W125	Red	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	
MCIA Red Dragon	Red	71.1	71.1	----	----	6.2	6.3	----	----	63.7	63.5	----	----	19.4	19.2	----	----	8.1	8.2	4.2	8.6
Sunburst	Red	72.1	68.6	67.6	67.0	6.5	6.5	6.7	6.9	65.3	60.5	56.7	54.1	19.4	18.9	18.5	18.1	8.3	8.3	13.2	21.1
W208	Red	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	
AgriMAXX 413	Red	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	
DF55	Red	71.7	71.3	71.4	71.6	6.4	6.6	6.7	7.0	59.5	59.8	59.1	57.8	19.5	19.6	19.4	19.2	8.8	8.8	4.2	10.1
RS935	Red	71.8	71.7	----	----	6.7	6.6	----	----	59.3	59.8	----	----	19.8	19.9	----	----	8.4	8.3	20.4	20.1
Pioneer Brand 25R39	Red	70.0	69.6	69.6	----	6.4	6.3	6.3	----	58.8	59.2	58.7	----	19.1	19.0	18.7	----	8.3	8.2	10.7	12.4
W123	Red	72.1	71.8	----	----	6.5	6.3	----	----	65.2	65.3	----	----	19.8	19.5	----	----	8.2	8.0	13.1	17.2
9042	Red	69.6	69.3	----	----	6.5	6.5	----	----	61.1	61.4	----	----	19.2	19.1	----	----	7.8	7.9	15.3	19.8
MCIA Red Devil	Red	69.0	69.1	----	----	6.1	6.4	----	----	64.9	62.7	----	----	19.5	19.3	----	----	7.6	8.0	12.9	16.7
Sienna	Red	71.9	----	----	----	6.5	----	----	----	62.8	----	----	----	19.5	----	----	----	8.3	----	3.1	----
Diener 492W	Red	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	
W124	Red	70.2	----	----	----	7.0	----	----	----	59.3	----	----	----	19.0	----	----	----	9.5	----	14.5	----
9053	Red	70.0	----	----	----	6.1	----	----	----	63.9	----	----	----	19.8	----	----	----	7.5	----	12.5	----
Pioneer Brand 25R32	Red	72.0	----	----	----	6.6	----	----	----	48.9	----	----	----	17.6	----	----	----	8.7	----	26.9	----
Merl	Red	70.6	70.6	70.7	----	7.0	7.0	7.0	----	59.1	58.8	58.6	----	19.4	19.3	19.3	----	8.6	8.7	22.8	25.5
9922	Red	69.3	69.3	----	----	6.5	6.7	----	----	63.0	61.3	----	----	19.3	19.4	----	----	8.1	8.5	17.3	19.6
W1104	Red	68.6	68.6	----	----	7.0	7.0	----	----	56.5	56.9	----	----	19.8	19.7	----	----	8.9	8.7	19.8	23.9
MCIA Butch	Red	68.0	67.8	67.8	68.1	6.7	6.8	6.9	6.9	57.5	58.7	57.6	57.7	19.3	19.1	18.8	18.8	8.7	8.8	19.0	20.9
Attack	Red	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	
Hopewell	Red	68.5	68.4	68.5	68.6	6.9	6.8	6.8	7.0	60.5	61.9	61.6	60.6	19.7	19.5	19.3	19.1	8.8	9.0	15.2	18.4
Red Ruby	Red	69.9	70.0	70.0	70.2	6.7	6.7	6.7	6.7	62.7	62.6	62.2	61.5	19.3	19.5	19.4	19.3	8.8	8.7	7.2	12.3
Quest	Red	71.0	----	----	----	6.6	----	----	----	63.3	----	----	----	19.5	----	----	----	8.5	----	9.6	----
DF75	Red	71.7	71.6	71.6	71.6	6.6	6.4	6.3	6.5	63.2	63.6	63.0	62.0	19.3	19.1	19.1	19.2	8.5	8.5	15.0	19.3
Malabar	Red	69.5	69.7	69.8	70.0	6.2	6.4	6.4	6.5	59.8	60.0	59.3	58.6	19.3	19.2	19.2	19.1	8.1	8.4	9.1	12.0
Emmit	Red	71.3	71.5	71.8	71.8	6.4	6.5	6.6	6.6	59.1	58.6	57.7	57.6	19.4	19.4	19.4	19.3	8.7	8.7	12.2	16.6
HY116-SRW	Red	67.5	67.6	67.9	----	6.6	6.7	6.8	----	55.8	56.3	54.6	----	19.4	19.5	19.3	----	8.8	8.8	17.9	21.1

# 2012 Michigan State University Wheat Performance Trials (Commercially Available Only)

Multi-year data are the most informative.

Table 4 : Multi-Year Performance Summary (Note: Tables sorted by 2012 Yield, red wheats grouped before white)

MSU makes no endorsement of any variety or brand.

Name	Grain Color	Milling and Baking Properties (2011 Crop and Earlier)																			
		Percent Flour Yield				Percent Protein In Flour				Softness Equivalent Percent				Cookie Diameter (cm)				Whole Grain Protein %		Whole Grain Hardness (0-100)	
		Multi-Year Averages				Multi-Year Averages				Multi-Year Averages				Multi-Year Averages				2 YR		2 YR	
		2011	2010-11	2009-11	2008-11	2011	2010-11	2009-11	2008-11	2011	2010-11	2009-11	2008-11	2011	2010-11	2009-11	2008-11	2011	2010-11	2011	2010-11
9242W	White	70.1	-----	-----	-----	6.4	-----	-----	-----	62.2	-----	-----	-----	19.8	-----	-----	-----	8.3	-----	2.3	-----
Ambassador	White	73.0	72.3	72.4	72.3	6.2	6.2	6.4	6.6	62.4	62.6	61.3	59.9	19.8	19.7	19.6	19.4	8.2	8.1	-4.1	1.6
AC Mountain	White	71.5	71.3	71.4	71.2	6.5	6.4	6.4	6.4	60.8	61.4	61.8	60.4	19.6	19.6	19.7	19.7	8.2	8.2	4.5	7.3
Pioneer Brand 25W43	White	70.3	70.3	70.1	70.2	6.7	6.9	6.9	7.0	59.0	58.8	59.0	58.0	19.3	19.2	19.3	19.1	8.4	8.6	8.5	11.6
Jupiter	White	71.9	71.9	71.7	71.5	5.6	5.7	5.7	5.9	63.6	63.2	63.4	60.5	19.7	19.6	19.5	19.5	7.4	7.5	9.6	12.7
Aubrey	White	70.9	71.4	71.3	71.3	7.2	7.0	7.2	7.2	58.6	61.3	61.2	60.4	18.6	18.7	18.8	18.7	9.1	8.9	9.5	10.7
Ava	White	70.2	70.2	70.2	70.1	6.2	6.3	6.2	6.3	64.1	63.4	63.2	61.9	19.7	19.7	19.7	19.6	7.9	8.1	0.5	7.2
TW319-SWW	White	70.2	70.0	-----	-----	6.6	6.8	-----	-----	58.9	59.1	-----	-----	19.2	19.2	-----	-----	8.6	8.7	17.8	20.3
W1062	White	73.0	72.7	72.6	72.5	6.3	6.2	6.3	6.4	64.6	64.7	64.9	62.8	20.1	20.3	20.3	20.1	8.0	7.9	10.2	15.8
Linebacker	White	71.1	70.8	70.7	-----	6.6	6.7	6.6	-----	61.1	60.6	61.4	-----	19.9	19.6	19.7	-----	8.2	8.3	9.5	14.9
Coral	White	71.8	71.8	71.5	71.5	6.5	6.6	6.4	6.5	62.3	61.9	62.3	60.5	19.7	19.6	19.5	19.4	8.0	8.1	7.5	12.4
Caledonia	White	71.6	71.8	71.5	71.4	6.4	6.5	6.5	6.7	62.3	62.0	61.7	59.6	19.9	19.7	19.4	19.4	8.6	8.5	8.6	13.9
MSU Line E5024	White	70.3	70.1	70.2	69.9	6.4	6.4	6.6	6.8	57.3	57.5	56.3	53.9	19.4	19.3	19.1	18.9	8.5	8.3	16.0	18.4
MSU D8006	White	72.8	73.1	72.9	72.9	6.6	6.6	6.8	6.8	63.3	63.4	62.7	61.7	19.8	19.8	19.8	19.7	8.5	8.5	10.8	11.6
Envoy	White	71.3	70.7	70.8	70.9	6.7	6.8	7.0	7.2	57.8	56.9	56.1	53.8	19.2	19.1	19.3	19.1	8.7	8.7	8.2	12.2
<b>MEAN (2012 = 92 Entries)</b>		<b>70.8</b>	<b>70.5</b>	<b>70.6</b>	<b>70.7</b>	<b>6.5</b>	<b>6.6</b>	<b>6.6</b>	<b>6.7</b>	<b>60.9</b>	<b>61.0</b>	<b>60.3</b>	<b>59.2</b>	<b>19.5</b>	<b>19.4</b>	<b>19.3</b>	<b>19.2</b>	<b>8.4</b>	<b>8.4</b>	<b>11.8</b>	<b>15.5</b>
	<b>LSD (0.05)</b>	-----	<b>1.8</b>	<b>1.4</b>	<b>1.2</b>	-----	<b>0.4</b>	<b>0.4</b>	<b>0.3</b>	-----	<b>3.4</b>	<b>3.3</b>	<b>3.4</b>	-----	<b>0.5</b>	<b>0.6</b>	<b>0.5</b>	-----	<b>0.5</b>	-----	<b>5.2</b>
	<b>CV (%)</b>	-----	<b>1.3</b>	<b>1.2</b>	<b>1.2</b>	-----	<b>2.9</b>	<b>3.4</b>	<b>3.6</b>	-----	<b>2.7</b>	<b>3.3</b>	<b>4.0</b>	-----	<b>1.2</b>	<b>1.8</b>	<b>1.8</b>	-----	<b>3.0</b>	-----	<b>16.5</b>

# 2012 Michigan State University Wheat Performance Trials (Commercially Available Only)

Multi-year data are the most informative.

**Table 5 : Multi-Year Performance Summary (Note: Tables sorted by 2012 Yield, red wheats grouped before white)**

MSU makes no endorsement of any variety or brand.

Name	Grain Color	Milling and Baking Properties (2011 Crop and Earlier)																			
		Water SRC (%)				Sodium Carbonate SRC (%)				Sucrose SRC (%)				As Is Lactic Acid SRC (%)SRC (%)				Quality Lab Test Weight			
		Multi-Year Averages				Multi-Year Averages				Multi-Year Averages				Multi-Year Averages				Multi-Year Averages			
		2 YR	3 YR	4 YR		2 YR	3 YR	4 YR		2 YR	3 YR	4 YR		2 YR	3 YR	4 YR		2 YR	3 YR	4 YR	
2011	2010-11	2009-11	2008-11	2011	2010-11	2009-11	2008-11	2011	2010-11	2009-11	2008-11	2011	2010-11	2009-11	2008-11	2011	2010-11	2009-11	2008-11		
Pioneer Brand 25R40	Red	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----		
Pioneer Brand 25R34	Red	52.5	----	----	----	64.5	----	----	----	78.1	----	----	----	92.0	----	----	----	61.4	----	----	
RS972	Red	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	
RS979	Red	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	
DF105R	Red	52.8	----	----	----	67.1	----	----	----	81.8	----	----	----	77.2	----	----	----	61.1	----	----	
9223	Red	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	
DF 109R	Red	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	
RS967	Red	55.1	55.6	----	----	69.4	69.3	----	----	87.3	85.1	----	----	102.9	99.9	----	----	63.2	62.8	----	
Marion	Red	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	
Shirley	Red	56.3	----	----	----	70.6	----	----	----	86.1	----	----	----	78.3	----	----	----	61.7	----	----	
W125	Red	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	
MCIA Red Dragon	Red	55.6	54.2	----	----	66.7	66.6	----	----	82.2	82.5	----	----	90.2	87.0	----	----	61.2	61.3	----	
Sunburst	Red	52.5	55.8	57.0	58.4	65.4	69.7	71.7	74.0	82.0	86.2	88.5	92.1	98.0	90.8	90.4	95.3	62.1	63.2	63.9	64.5
W208	Red	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
AgriMAXX 413	Red	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
DF55	Red	54.3	53.5	53.1	53.2	66.4	64.7	64.6	65.3	86.2	84.4	83.3	84.4	89.3	87.3	88.8	95.1	62.3	61.8	62.0	62.7
RS935	Red	53.5	52.2	----	----	65.0	64.7	----	----	80.1	78.5	----	----	77.6	74.8	----	----	61.5	60.9	----	----
Pioneer Brand 25R39	Red	57.6	56.8	56.4	----	70.2	69.4	69.6	----	84.8	83.2	84.1	----	85.3	80.4	83.0	----	63.4	62.7	62.9	----
W123	Red	52.4	53.8	----	----	66.1	65.8	----	----	82.0	80.0	----	----	98.4	97.9	----	----	61.9	61.6	----	----
9042	Red	56.2	55.9	----	----	71.5	71.9	----	----	89.3	88.5	----	----	109.8	106.0	----	----	62.6	62.5	----	----
MCIA Red Devil	Red	55.8	55.6	----	----	67.8	67.4	----	----	82.2	83.5	----	----	86.5	84.8	----	----	62.9	63.0	----	----
Sienna	Red	52.8	----	----	----	65.9	----	----	----	85.4	----	----	----	94.2	----	----	----	62.2	----	----	----
Diener 492W	Red	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
W124	Red	54.4	----	----	----	68.7	----	----	----	84.6	----	----	----	78.0	----	----	----	63.5	----	----	----
9053	Red	54.1	----	----	----	70.7	----	----	----	87.4	----	----	----	90.4	----	----	----	60.5	----	----	----
Pioneer Brand 25R32	Red	60.6	----	----	----	76.6	----	----	----	85.6	----	----	----	91.2	----	----	----	63.6	----	----	----
Merl	Red	55.7	55.3	54.8	----	69.7	69.6	69.6	----	84.0	82.5	83.0	----	87.3	86.2	88.7	----	64.3	64.2	64.1	----
9922	Red	55.1	55.0	----	----	70.4	69.1	----	----	88.5	86.7	----	----	89.0	86.7	----	----	62.8	63.1	----	----
W1104	Red	53.4	53.3	----	----	64.6	64.7	----	----	81.1	81.3	----	----	73.2	69.4	----	----	62.0	61.5	----	----
MCIA Butch	Red	55.0	54.1	53.7	53.9	68.0	67.4	68.0	69.2	81.1	82.3	82.9	83.9	91.7	91.7	94.5	97.5	61.2	60.8	61.3	61.5
Attack	Red	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
Hopewell	Red	54.9	54.3	54.1	54.0	69.3	68.5	68.4	69.2	82.5	83.1	83.1	84.1	100.5	98.5	100.1	103.7	63.3	62.5	62.5	62.8
Red Ruby	Red	54.6	54.4	54.3	54.1	67.4	66.9	67.2	67.9	83.3	82.9	83.2	84.3	98.8	94.7	97.4	101.2	62.9	62.6	62.7	63.1
Quest	Red	53.7	----	----	----	66.8	----	----	----	84.3	----	----	----	83.4	----	----	----	60.9	----	----	----
DF75	Red	58.4	57.2	57.1	57.3	71.0	69.9	70.0	71.2	86.7	84.0	83.5	84.4	77.8	74.2	79.3	82.7	63.4	63.2	63.2	63.8
Malabar	Red	55.8	55.0	54.6	54.8	68.6	67.6	67.6	68.6	82.2	83.0	83.4	84.3	91.1	90.6	94.9	98.7	62.2	62.0	62.3	62.6
Emmit	Red	53.8	54.1	53.5	53.6	67.9	66.3	66.2	67.2	83.7	81.9	80.9	82.6	79.5	72.7	74.7	79.6	62.7	62.3	62.3	62.7
HY116-SRW	Red	56.0	55.6	55.1	----	69.9	68.6	68.5	----	87.0	84.5	84.2	----	79.6	76.3	79.0	----	62.2	61.8	62.3	----

# 2012 Michigan State University Wheat Performance Trials (Commercially Available Only)

Multi-year data are the most informative.

Table 5 : Multi-Year Performance Summary (Note: Tables sorted by 2012 Yield, red wheats grouped before white)

MSU makes no endorsement of any variety or brand.

Name	Grain Color	Milling and Baking Properties (2011 Crop and Earlier)																			
		Water SRC (%)				Sodium Carbonate SRC (%)				Sucrose SRC (%)				As Is Lactic Acid SRC (%)SRC (%)				Quality Lab Test Weight			
		Multi-Year Averages				Multi-Year Averages				Multi-Year Averages				Multi-Year Averages				Multi-Year Averages			
		2011	2 YR	3 YR	4 YR	2011	2 YR	3 YR	4 YR	2011	2 YR	3 YR	4 YR	2011	2 YR	3 YR	4 YR	2011	2 YR	3 YR	4 YR
9242W	White	54.1	-----	-----	-----	66.8	-----	-----	-----	82.9	-----	-----	-----	86.2	-----	-----	-----	62.0	-----	-----	-----
Ambassador	White	51.8	51.6	51.2	51.4	66.1	65.1	64.8	65.7	80.4	79.4	78.9	80.0	78.6	75.6	79.0	83.0	61.0	60.5	60.6	60.9
AC Mountain	White	51.4	51.5	51.7	51.7	64.7	63.6	63.4	64.5	79.8	78.4	78.2	79.7	78.9	74.6	78.9	82.8	61.3	61.0	60.7	61.0
Pioneer Brand 25W43	White	53.2	52.9	52.5	52.7	64.9	64.2	64.8	65.8	83.7	82.4	82.4	83.6	97.8	98.1	97.9	101.9	62.0	62.0	61.9	62.4
Jupiter	White	56.1	55.4	55.7	55.9	67.9	66.9	67.5	68.9	80.4	79.7	79.9	81.0	86.2	82.4	90.5	95.3	61.8	61.4	61.3	62.2
Aubrey	White	53.2	52.9	52.1	52.4	69.7	68.3	67.5	67.9	87.5	86.0	84.2	84.9	95.4	93.2	93.9	94.0	63.8	63.0	63.2	63.3
Ava	White	52.7	52.6	52.0	52.0	64.7	64.3	64.0	65.1	81.5	80.5	79.7	81.8	76.3	70.6	75.3	79.9	62.7	62.0	61.8	62.4
TW319-SWW	White	56.5	55.8	-----	-----	70.4	69.2	-----	-----	85.0	83.5	-----	-----	85.3	82.3	-----	-----	63.2	63.1	-----	-----
W1062	White	52.1	51.5	51.4	51.3	64.2	63.0	62.9	64.0	78.4	78.0	77.7	79.5	98.7	92.0	96.3	100.9	62.8	62.3	62.0	62.8
Linebacker	White	51.6	51.3	51.4	-----	65.0	63.8	64.0	-----	80.8	79.5	78.9	-----	83.0	77.9	83.5	-----	61.8	61.3	60.6	-----
Coral	White	50.9	51.7	51.1	51.4	64.5	63.5	63.4	64.5	79.3	78.4	77.6	78.6	84.9	82.4	86.9	91.7	62.0	62.1	61.8	62.5
Caledonia	White	51.7	52.0	52.0	52.0	65.7	64.4	64.5	65.4	79.4	78.2	77.7	79.6	88.8	84.0	88.1	92.4	62.0	61.7	61.5	62.2
MSU Line E5024	White	54.7	55.1	54.8	55.4	69.1	67.8	68.1	69.6	82.5	83.2	83.2	85.0	79.7	78.3	80.3	83.8	62.5	62.2	62.4	63.0
MSU D8006	White	53.2	53.0	52.5	52.5	65.0	64.8	64.8	65.6	78.1	78.7	79.4	80.3	97.3	95.1	98.2	101.6	61.2	61.4	61.6	62.1
Envoy	White	54.4	53.7	53.2	54.1	68.4	66.5	66.2	68.0	85.4	84.3	83.5	85.2	101.5	94.1	93.8	97.3	62.0	61.7	62.1	62.9
<b>MEAN (2012 = 92 Entries)</b>		<b>54.2</b>	<b>54.0</b>	<b>53.5</b>	<b>53.6</b>	<b>67.6</b>	<b>66.7</b>	<b>66.5</b>	<b>67.4</b>	<b>83.2</b>	<b>82.2</b>	<b>81.7</b>	<b>83.0</b>	<b>88.9</b>	<b>85.9</b>	<b>88.2</b>	<b>92.9</b>	<b>62.2</b>	<b>62.1</b>	<b>62.1</b>	<b>62.6</b>
	<b>LSD (0.05)</b>	-----	<b>2.4</b>	<b>1.8</b>	<b>1.7</b>	-----	<b>3.0</b>	<b>2.4</b>	<b>2.2</b>	-----	<b>4.0</b>	<b>3.3</b>	<b>3.1</b>	-----	<b>5.8</b>	<b>6.9</b>	<b>6.1</b>	-----	<b>1.0</b>	<b>1.1</b>	<b>1.0</b>
	<b>CV (%)</b>	-----	<b>2.2</b>	<b>2.1</b>	<b>2.3</b>	-----	<b>2.2</b>	<b>2.2</b>	<b>2.3</b>	-----	<b>2.4</b>	<b>2.5</b>	<b>2.6</b>	-----	<b>3.3</b>	<b>4.7</b>	<b>4.6</b>	-----	<b>0.8</b>	<b>1.1</b>	<b>1.1</b>

**2012 Michigan State University Wheat Performance Trials** (Commercially Available Only)

Multi-year data are the most informative.

Table 6 : Single Site: Yield, Test Weight and Moisture Performance Summary (Note: Tables sorted alphabetically by organization)

MSU makes no endorsement of any variety or brand.

Name	Grain Color	ALLEGAN			HURON			INGHAM			LENAWEE			TUSCOLA			SANILAC			Organization
		Yield bu/acre	Test Weight	Moist.	Yield bu/acre	Test Weight	Moist.	Yield bu/acre	Test Weight	Moist.	Yield bu/acre	Test Weight	Moist.	Yield bu/acre	Test Weight	Moist.	Yield bu/acre	Test Weight	Moist.	
AgriMAXX 413	Red	97.8	60.0	13.3	84.6	59.4	12.9	87.5	59.2	13.2	94.6	59.8	12.1	101.8	59.5	12.9	83.5	58.4	13.1	AgriMAXX Wheat Company
Diener 492W	Red	91.2	60.1	13.1	88.1	58.8	12.9	79.1	58.2	13.4	91.6	59.5	12.0	101.0	59.0	12.9	87.2	57.9	13.2	BioTown Seeds
Attack	Red	86.6	58.9	13.5	82.0	59.5	12.9	81.1	58.9	14.5	93.5	60.2	12.2	104.4	59.6	13.1	80.4	58.6	13.7	D.F. Seeds, Inc.
DF 109R	Red	91.5	59.1	14.4	87.8	59.5	13.8	90.2	58.1	14.1	96.8	57.6	12.6	109.3	59.8	13.5	88.9	57.7	14.2	D.F. Seeds, Inc.
DF105R	Red	96.0	59.8	13.7	82.2	59.2	12.8	97.5	59.6	13.1	90.6	59.5	11.8	107.1	59.4	12.6	88.8	57.1	13.2	D.F. Seeds, Inc.
DF55	Red	90.1	59.6	12.9	85.5	59.4	13.4	89.1	59.9	14.2	87.0	59.7	12.6	102.9	60.5	12.8	89.6	59.4	14.1	D.F. Seeds, Inc.
DF75	Red	86.9	60.2	13.6	83.2	60.0	13.2	70.9	59.1	14.8	90.9	61.3	12.3	103.1	60.8	13.2	76.6	59.6	13.6	D.F. Seeds, Inc.
Linebacker	White	77.8	56.0	16.3	72.8	59.0	13.9	73.0	56.7	16.4	78.3	56.6	13.0	95.9	58.4	15.5	81.1	58.0	14.7	D.F. Seeds, Inc.
Ambassador	White	89.3	57.9	13.3	77.2	57.5	12.9	88.0	58.2	12.8	82.7	57.8	12.0	100.9	59.0	12.5	93.5	58.3	13.3	D.F. Seeds, Inc. / Cooperative Elevator Co.
Aubrey	White	90.1	60.3	13.5	78.9	59.6	13.6	82.5	59.5	13.7	80.8	60.0	12.3	93.5	60.5	12.5	74.9	58.7	14.2	D.F. Seeds, Inc. / Cooperative Elevator Co. / Farmers Co-op Grain Co.
Quest	Red	89.4	58.1	13.3	70.2	58.0	12.7	90.6	58.9	13.2	94.1	58.7	11.9	100.1	58.6	12.1	70.1	56.7	13.1	Direct Enterprises
Sienna	Red	93.5	58.8	13.1	82.7	58.2	13.2	80.8	58.2	13.7	96.9	58.8	12.1	103.9	58.8	12.4	83.5	57.7	13.3	Direct Enterprises
Pioneer Brand 25R32	Red	90.3	62.2	13.5	79.1	60.2	13.4	83.3	61.4	14.0	83.0	60.9	12.4	102.9	61.8	12.5	91.4	60.6	13.8	Dupont Pioneer
Pioneer Brand 25R34	Red	97.8	58.1	14.3	93.3	58.9	13.7	92.8	58.9	14.3	88.4	60.0	12.6	111.9	59.1	13.6	92.5	58.7	14.4	Dupont Pioneer
Pioneer Brand 25R39	Red	88.5	59.4	14.6	85.3	60.6	13.4	89.2	60.1	13.7	90.3	59.9	12.4	106.9	60.5	13.0	82.2	59.3	13.4	Dupont Pioneer
Pioneer Brand 25R40	Red	101.7	60.5	13.7	89.1	60.5	13.3	93.1	60.6	14.0	96.1	60.7	12.3	115.3	61.3	12.7	95.9	59.9	13.9	Dupont Pioneer
Pioneer Brand 25W43	White	90.2	59.6	13.8	81.1	59.3	13.6	82.9	59.8	14.0	85.0	58.6	12.3	105.4	60.0	12.8	77.6	58.0	13.5	Dupont Pioneer
9042	Red	98.0	60.3	13.5	77.0	59.2	12.9	80.2	59.5	13.7	91.9	59.8	12.1	104.9	60.1	12.2	90.2	58.7	13.7	Dyna-Gro Seed
9053	Red	91.2	58.7	13.1	80.2	58.7	12.8	90.9	58.8	13.2	84.5	57.3	12.0	107.1	59.4	12.6	77.5	57.4	13.4	Dyna-Gro Seed
9223	Red	96.5	59.2	13.8	86.8	59.5	13.7	84.8	58.5	14.4	92.9	56.9	12.3	111.9	60.0	13.1	90.0	58.1	14.1	Dyna-Gro Seed
9922	Red	96.8	60.0	13.7	82.0	61.0	13.3	77.9	60.9	13.8	100.6	60.6	12.2	103.4	60.3	13.0	75.6	58.5	14.1	Dyna-Gro Seed
9242W	White	89.4	60.0	13.8	84.3	60.1	13.3	78.0	60.2	13.8	88.8	59.6	12.3	105.1	60.2	12.5	90.0	59.5	13.6	Dyna-Gro Seed
Shirley	Red	84.6	57.0	13.6	86.6	58.7	13.2	87.0	58.1	14.1	93.5	59.8	12.3	99.7	58.6	13.9	106.9	59.3	13.8	Dyna-Gro Seed
Caledonia	White	78.0	57.9	14.0	73.1	59.4	13.4	76.8	57.9	15.1	83.7	58.5	12.2	93.0	59.0	14.4	68.2	57.2	14.0	Harrington Seeds, Inc.
Ava	White	82.6	54.7	18.5	77.4	58.7	14.3	67.8	55.0	18.6	80.6	56.3	13.7	95.9	57.7	17.1	80.6	57.7	14.7	Hyland Seeds
Emmit	Red	88.3	59.0	13.8	69.5	59.1	14.0	71.5	58.7	15.5	83.0	58.5	12.2	95.7	59.4	13.7	78.4	58.2	14.0	Hyland Seeds
HY116-SRW	Red	79.0	57.8	13.3	69.3	58.2	13.5	71.0	57.5	14.6	92.5	60.2	12.3	90.7	57.7	13.2	85.7	58.4	13.7	Hyland Seeds
TW319-SWW	White	84.7	59.3	13.8	69.2	59.5	13.1	78.6	59.9	14.1	89.3	61.1	12.5	93.9	61.0	13.0	71.8	59.5	13.6	Hyland Seeds

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Table 6 : Single Site: Yield, Test Weight and Moisture Performance Summary (Note: Tables sorted alphabetically by organization)

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Name	Grain Color	ALLEGAN			HURON			INGHAM			LENAWEE			TUSCOLA			SANILAC			Organization
		Yield bu/acre	Test Weight	Moist.	Yield bu/acre	Test Weight	Moist.	Yield bu/acre	Test Weight	Moist.	Yield bu/acre	Test Weight	Moist.	Yield bu/acre	Test Weight	Moist.	Yield bu/acre	Test Weight	Moist.	
AC Mountain	White	86.0	56.3	13.6	83.4	58.2	13.2	85.3	57.4	13.8	81.9	57.0	11.9	96.3	58.3	12.6	91.1	58.1	13.5	Michigan Crop Improvement Association
Coral	White	80.9	56.6	14.8	75.0	59.0	13.9	73.9	56.9	14.9	79.1	56.9	12.3	96.7	59.6	15.3	71.7	58.1	13.8	Michigan Crop Improvement Association
Hopewell	Red	86.8	59.8	13.8	81.9	59.7	13.2	87.4	60.1	14.8	82.6	59.6	12.6	96.4	60.8	12.9	87.1	59.5	13.5	Michigan Crop Improvement Association
Jupiter	White	93.2	57.8	15.7	77.8	58.9	13.1	80.1	58.1	15.3	84.2	57.6	12.5	99.6	58.8	13.5	81.8	58.3	13.5	Michigan Crop Improvement Association
MCIA Butch	Red	85.5	58.8	13.7	83.0	57.9	13.0	86.6	58.0	13.7	91.5	59.6	12.3	100.2	59.4	12.3	80.9	57.8	13.4	Michigan Crop Improvement Association
MCIA Red Devil	Red	97.0	60.4	14.1	83.3	60.7	13.4	80.9	60.2	14.6	95.9	60.3	12.5	104.7	60.5	13.1	80.1	59.7	14.0	Michigan Crop Improvement Association
MCIA Red Dragon	Red	97.5	58.6	13.1	79.7	58.5	13.2	87.6	59.1	13.7	90.7	57.1	12.1	106.9	58.7	12.3	89.9	57.1	13.3	Michigan Crop Improvement Association
MSU D8006	White	84.2	59.1	13.7	67.3	59.3	12.8	71.1	59.7	13.3	87.4	60.2	12.2	91.4	59.7	12.9	63.4	57.5	13.4	Michigan Crop Improvement Association
MSU Line E5024	White	81.3	60.5	13.1	68.2	60.9	12.8	58.6	60.4	14.1	85.6	59.3	12.2	90.9	60.3	12.3	79.5	59.7	13.6	Michigan Crop Improvement Association
Red Ruby	Red	84.5	60.5	13.4	82.1	61.0	13.2	84.2	60.7	13.5	91.0	60.4	12.3	94.6	60.5	12.5	83.4	59.7	13.4	Michigan Crop Improvement Association
Sunburst	Red	95.8	62.6	15.2	87.7	62.6	13.9	89.2	62.2	15.0	93.9	63.4	13.0	103.9	62.0	14.4	81.4	61.1	14.5	Michigan Crop Improvement Association
Malabar	Red	81.0	58.3	14.0	77.0	59.6	13.3	80.6	60.2	13.8	80.3	59.8	12.4	99.1	60.4	12.3	83.4	59.6	13.7	Ohio Seed Improvement Association
Envoy	White	73.0	58.8	14.7	72.5	60.6	13.2	75.1	60.5	14.0	76.4	59.8	12.5	89.6	59.5	13.6	68.4	59.6	13.8	Platinum Genetics, LLC
RS935	Red	95.5	59.8	13.3	84.3	59.4	12.8	87.5	58.8	14.4	94.3	59.0	12.2	102.8	59.8	12.2	80.5	57.8	13.1	Rupp Seeds, Inc
RS967	Red	93.8	60.4	13.7	88.2	60.6	13.1	85.5	60.3	13.4	91.6	60.3	12.2	108.8	61.1	12.5	92.7	59.8	13.8	Rupp Seeds, Inc
RS972	Red	99.8	59.3	14.8	85.3	58.8	13.9	93.1	59.6	14.6	97.3	58.6	12.6	114.0	59.9	13.9	90.8	57.3	14.3	Rupp Seeds, Inc
RS979	Red	101.5	58.3	14.2	87.2	58.8	13.7	84.8	58.1	14.8	95.1	58.1	12.2	107.0	58.1	13.3	89.8	57.5	14.5	Rupp Seeds, Inc
Marion	Red	101.3	59.9	13.2	81.3	59.4	13.1	88.1	60.2	13.4	87.7	58.4	12.0	108.1	60.7	12.4	90.5	58.9	13.6	Steyer Seeds
W1062	White	89.3	58.3	14.8	65.2	58.8	13.8	78.3	58.8	17.4	80.7	57.2	12.6	94.2	57.9	13.8	73.4	55.9	14.3	Syngenta
W1104	Red	95.5	58.4	13.6	78.4	59.1	13.4	86.5	60.1	13.8	92.1	58.8	12.5	99.6	58.3	12.8	79.5	57.8	13.5	Syngenta
Merl	Red	101.7	61.8	14.1	81.7	61.0	14.0	85.8	60.7	14.9	99.9	63.8	12.7	103.3	60.9	13.9	63.5	58.7	15.4	Virginia Crop Improvement Association / Virginia Tech
W123	Red	93.5	59.5	12.6	83.2	58.3	13.3	82.1	57.4	14.6	89.3	59.8	12.3	104.8	59.0	12.4	88.9	58.3	13.5	Wellman Seeds, Inc.
W124	Red	97.7	60.6	13.8	78.6	60.7	13.2	87.3	60.7	13.3	95.3	61.8	12.2	103.0	60.3	12.7	75.9	59.4	13.4	Wellman Seeds, Inc.
W125	Red	97.8	59.0	12.8	82.0	58.3	13.1	86.6	59.1	13.9	93.4	58.2	12.1	108.4	59.6	12.2	86.3	57.5	13.2	Wellman Seeds, Inc.
W208	Red	94.9	58.7	14.9	88.7	59.6	14.3	86.3	59.3	15.5	94.2	58.9	12.6	109.7	60.2	14.2	78.0	58.3	14.8	Wellman Seeds, Inc.
<b>MEAN (2012 = 92 Entries)</b>		<b>90.6</b>	<b>59.5</b>	<b>14.0</b>	<b>80.4</b>	<b>59.6</b>	<b>13.4</b>	<b>82.9</b>	<b>59.4</b>	<b>14.5</b>	<b>89.6</b>	<b>59.6</b>	<b>12.4</b>	<b>101.4</b>	<b>59.8</b>	<b>13.3</b>	<b>82.8</b>	<b>58.8</b>	<b>13.9</b>	
<b>LSD (0.05)</b>		<b>5.4</b>	<b>0.8</b>	<b>0.8</b>	<b>4.3</b>	<b>0.7</b>	<b>0.2</b>	<b>6.7</b>	<b>1.0</b>	<b>1.0</b>	<b>4.6</b>	<b>0.8</b>	<b>0.2</b>	<b>5.2</b>	<b>0.7</b>	<b>0.7</b>	<b>6.6</b>	<b>0.8</b>	<b>0.3</b>	
<b>CV (%)</b>		<b>5.1</b>	<b>1.1</b>	<b>5.0</b>	<b>4.6</b>	<b>1.0</b>	<b>1.5</b>	<b>6.9</b>	<b>1.5</b>	<b>6.1</b>	<b>3.1</b>	<b>0.8</b>	<b>1.0</b>	<b>4.4</b>	<b>1.0</b>	<b>4.5</b>	<b>6.8</b>	<b>1.2</b>	<b>2.1</b>	

# 2012 Michigan State University Wheat Performance Trials

**Appendix A. Trial Site Descriptions for 2012 MSU Wheat Performance Trials.**

	ALLEGAN COUNTY	HURON COUNTY	INGHAM COUNTY		LENAWEE COUNTY	SANILAC COUNTY	TUSCOLA COUNTY
			YIELD TRIAL	SCAB NURSERY			
COOPERATOR	Harvey Jipping	Darwin Sneller	Charles Dietz	Michigan State University	Woods Seed Farm	Stoutenburg Farms	Stuart Bierlein
NEAREST CITY	Hamilton	Sebewaing	Webberville	East Lansing	Britton	Sandusky	Richville
PLANTING DATE	Oct. 11, 2011	Oct. 9, 2011	Oct. 10, 2011	Oct. 13, 2011	Oct. 18, 2011	Oct. 8, 2011	Oct. 7, 2011
HARVEST DATE	June 29, 2012	July 6, 2012	July 3, 2012	N/A	June 30, 2012	July 9, 2012	July 2, 2012
SOIL TYPE	Colwood silt loam; 0 to 2 percent slopes	Kilmanagh loam; 0 to 1 percent slopes	Capac loam; 0 to 3 percent slopes	Capac sandy loams, 0 to 3 percent slopes and Colwood-Brookston loams, 0 to 2 percent slopes	Lenawee silty clay loam, 0 to 3 percent slopes	Parkhill loam and mucky loam, 0 to 2 percent slopes	Tappan-Londo Loam, 0-2 percent slope
PRE-PLANT FERTILIZER	300# 7-8-19	250# 5-16-24 + 6% Mg + 4% S	150# 19-19-19	150# 19-19-19	300# 9-23-30	200# 5.4-18-34.3 + 4.5%S + 0.5%Z	275# 14-7-21
COMMENTS	Leaf Rust, Stripe Rust, Leaf Blotch, Powdery Mildew	Stripe and Leaf Rust	Stripe and Leaf Rust	Inoculated / Misted Fusarium Head Blight Screening Nursery	Stripe and Leaf Rust	Stripe and Leaf Rust	Septoria Leaf Blotch, Stripe Rust, Leaf Rust
AVERAGE YIELD (BUSHELS / ACRE)	90.6	80.4	82.9	N/A	89.6	82.8	101.4
AVERAGE TEST WEIGHT (LBS. / BUSHEL)	59.9	59.6	59.4	N/A	59.6	58.8	59.8
AVERAGE PERCENT GRAIN MOISTURE	14.0	13.4	14.5	N/A	12.4	13.9	13.3
2012 DATA RECORDED (NUMBER OF REPS)	PL_HT (4); LRUST (3); PM (3); SRUST (3)	PL_HT (4)	FD (4)	FHB SCORE (3)		F_INJ (4)	FD (4), SEPT (2)

\*OTHER DATA: **FD** – Flowering Date (Days Past Jan. 01), **PL\_HT** - Plant Height in Inches, **LRUST** - Leaf Rust Score (0-9), **SRUST** - Stripe Rust Score (0-9), **PM** - Powdery Mildew Score (0-9), **SEPT** - Septoria Leaf Blotch Complex Scores (0-9), **F\_INJ** - Freeze Injury Score (0-9), **FHB SCORE** - Fusarium Head Blight Score (0-5)

\*\* SCORING INFORMATION: Score of 0 = Best Rating - Score of 9 = Poor Rating



**ORGANIZATIONS PARTICIPATING IN THE 2012  
MICHIGAN STATE UNIVERSITY WHEAT PERFORMANCE TRIALS**

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7167 Highbanks Road  
Mascoutah, IL 62258  
Phone: 855-629-9432

Cooperative Elevator Company  
P.O. Box 619, 7211 Michigan Ave.  
Pigeon, MI 48755  
Phone: 800-968-0601

Direct Enterprises  
P.O. Box 978  
Westfield, IN 46074  
Phone: 317-910-2140

Dyna-Gro Seed  
6221 Riverside Drive, Suite One  
Dublin, OH 43017-0477  
Phone: 614-761-4110

Harrington Seeds, Inc.  
2586 Bradleyville Road  
Reese, MI 48757  
Phone: 989-868-4750

Limagrain Cereal Seeds  
257 E. Hail  
Bushnell, IL 61422  
Phone-309-772-2070

Ohio Seed Improvement Association  
6150 Avery Road, P.O. Box 477  
Dublin, OH 43017-0477  
Phone: 614-889-1136

Rupp Seeds, Inc.  
17919 Co Rd. B  
Wauseon, OH 43567  
Phone: 419-337-1841

Syngenta Seeds  
2426 Webster Rd RR1  
Monroeville, IN 46773  
Phone: 260-248-1700

Wellman Seeds, Inc.  
23778 Delphos Jennings Road  
Delphos, OH 45833  
Phone: 800-717-7333

BioTown Seeds  
P.O. Box 299  
Reynolds, IN 47980  
Phone: 219-984-6038

D.F. Seeds, Inc.  
P.O. Box 159, 905 S. Jackson  
Dansville, MI 48819  
Phone: 517-623-6161

Dupont Pioneer  
59 Greif Parkway, Suite 200  
Delaware, OH 43015  
Phone: 740-657-6142

Farmer's Cooperative Grain Co.  
338 Main Street  
Kinde, MI 48445-9500  
Phone: 989-874-4200

Hyland Seeds  
5 Hyland Drive  
Blenheim, Ontario NOPIA0  
Phone: 519-676-8146

Michigan Crop Improvement Association  
P.O. Box 21008  
Lansing, MI 48909  
Phone: 517-332-3546

Platinum Genetics, LLC  
3490 Belle Chase Way, Suite 210  
Lansing, MI 48911  
Phone: 517-272-1514

Steyer Seeds  
6154 N. Co. Rd. 33  
Tiffin, OH 44883  
Phone: 800-231-4274

Virginia Tech / VCIA  
2229 Menokin Road  
Warsaw, VA 22572  
Phone: 804-333-3485

Westbred  
6025 W. 300 S.  
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