Michigan State Wheat Performance Trials: 2011

Janet Lewis[1], Lee Siler[1], Sue Hammar[1], Randy Laurenz[1], Yanhong Dong[2], Ed Souza[3]

[1]Michigan State University, Department of Crop and Soil Sciences

[2] University of Minnesota, DON Testing Lab. Department of Plant Pathology

[3] USDA-ARS Soft Wheat Quality Lab, Wooster, Ohio

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Comments on the 2011 Wheat Crop

Many wheat fields were planted early in 2010 due to dry conditions and early harvests. Mild winter conditions resulted in minimal losses over the winter across Michigan. Cool spring temperatures resulted in late flowering and a late harvest in Michigan. Timing of flowering was condensed throughout the state this year due to a very hot week in early June. 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 (observed in Sanilac County) and Fusarium head blight (minimal, but observed in Lenawee County). Dry conditions during flowering resulted in a low risk of Fusarium head blight (scab) in the majority of the state. Army worms were a concern but were reported infrequently. Heavy rains and high winds during late June resulted in lodging damage in some fields, with moderate to severe lodging in some areas. Conditions during harvest were dry for most of the state, but areas harvested later were held up by rains, and farmers were concerned about the possibility of preharvest sprouting. The USDA/NASS office reported on July 1 a state wide average yield projection of 73 bushels per acre.

Multi-Year Performance Summary (Tables 1 - 5)

Tables 1 through 5 summarize performance of the trial. The full trial included 76 entries (17 of which were experimental lines) from 17 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 59 commercially available varieties from 14 organizations only. The "including experimentals" version (online only) includes all 76 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 2010. In some instances (e.g. yield), data columns to the right of the 2010 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 five sites harvested for yield in 2010. 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.

Disclaimer: ***MSU makes no endorsement of any wheat variety or brand.***

Experimental

The 2011 State Wheat Performance Trial entries were planted at seven sites in 6 counties: Huron, Lenawee, Tuscola, Sanilac, Ingham (2) and Allegan. 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 (19 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 with the exception of "top grain" on Table X, where 9 is preferred.

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, lodging, winter injury, powdery mildew, leaf blotch, and black point. Lodging, winter injury, and black point 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*. 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 2008 and prior harvest seasons. We are testing the use of an optical sorter for evaluation of black point, and hope to implement this to examine the 2011 harvested samples.

Table 3 contains data for leaf rust, stripe rust, stem rust, in head sprouting, Fusarium head blight (FHB, scab) and the associated mycotoxin deoxynivalenol (DON, VOM). Scab data were obtained from the Ingham misted/inoculated scab screening nursery. 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 2010 and prior crop years. Stem rust, and in head sprouting data are reported from prior years. Stripe, leaf and stem rust scores are based primarily on infection observations on the flag leaf. In head sprouting data reported here is based on a greenhouse evaluation of 5 heads from each plot for entries included in 2008. Heads were collected within 6 hours of harvest. Following harvest, heads were dried for 3 and 5 days. Scores were taken after the heads were subjected to near-continuous misting for 3 to 4 days. A score of zero indicates that sprouting was not present. A score of 9 indicates many shoots and roots observed in the heads during scoring. In 2009, 2010 and 2011 two different methodologies (one in 2009 and 2010, and a revised version in 2011) of sprouting evaluation were used to improve the accuracy of the evaluation. These data are unavailable until their repeatability is confirmed.

Table 4 through 5 contain data for milling and baking quality. Quality data are from the 2010 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. "Top grain" is a measure of cracking on the surface of the cookie - on a 0-9 scale, 9 is preferred. Whole grain protein (%) and whole grain hardness (0-100, higher values = harder) are being reported for the first time this year.

Table 6 contains yield, test weight and % 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 Janet Lewis (517-355-0271 ext. 1185). 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.

2011 Michigan State University Wheat Performance Trials

Appendix A. Trial Site Descriptions for 2011 MSU Wheat Performance Trials.

	ALLEGAN COUNTY	HURON COUNTY	INGHAM COUNTY YIELD TRIAL	INGHAM COUNTY SCAB NURSERY	LENAWEE COUNTY	SANILAC COUNTY	TUSCOLA COUNTY
COOPERATOR	Todd Green	Darwin Sneller	Charles Dietz	Michigan State University	Woods Seed Farm	Stoutenburg Farms	Stuart Bierlein
NEAREST CITY	Hopkins	Sebewaing	Webberville	East Lansing	Britton	Sandusky	Richville
PLANTING DATE	Oct. 1, 2010	Sept. 27, 2010	Oct. 5, 2010	Oct. 7, 2010	Oct. 4, 2010	Sept. 25, 2010	Sept. 30, 2010
HARVEST DATE	July 16, 2011	July 15, 2011	July 13, 2010	N/A	July 8, 2010	July 19, 2010	July 14, 2010
SOIL TYPE	Riddles loam, 6 to 12 percent slopes and Ockley loam, 1 to 6 percent slopes	Tappan loam, 0 to 1 percent slopes	Capac sandy loams, 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 clay loam, 0 to 2 percent slopes	Tappan-Londo Loam, 0-2 percent slope
PRE-PLANT FERTILIZER	100# 19-19-19	250# 4-13-41 + 10% S + 1% Zn	100# 19-19-19	150# 6-24-24	300# 9-23-30	200# 5.4-18-34.3 + 4.5%S + 0.5%Zn	225# 7-12-27 + 0.3 Cu + 3 Zn + .5 Mn
COMMENTS	Leaf Rust, Stripe Rust, Leaf Blotch, Powdery Mildew	Leaf Blotch	Leaf Blotch	Inoculated / Misted Fusarium Head Blight Screening Nursery	Leaf Blotch	Leaf Blotch	Leaf Blotch
AVERAGE YIELD (BUSHELS / ACRE)	83.2	95.1	72.9	N/A	84.6	85.8	103.4
AVERAGE TEST WEIGHT (LBS. / BUSHEL)	59.1	59.5	58.8	N/A	60.1	58.6	60.8
AVERAGE PERCENT GRAIN MOISTURE	12.5	13.3	14.2	N/A	14.2	15.0	12.7
2010 DATA RECORDED (NUMBER OF REPS)	LRUST (2); PM (2); SEPT (2); SRUST (2)			FHBI% (4); FHBS% (4); FHBX (4)	FD (4)	LRUST (3); PL_HT (4); PM (3)	FD (4); PL_HT (4); SEPT (3)

*****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), **FHBI%** - Fusarium Head Blight Incidence Percent (0-100%), **FHBS%** - Fusarium Head Blight Severity Percent (0-100%), **FHBX** - Fusarium Head Blight Index Percent (0-100%)

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

ORGANIZATIONS PARTICIPATING IN THE 2011
MICHIGAN STATE UNIVERSITY WHEAT PERFORMANCE TRIALS

Cooperative Elevator Company
P.O. Box 619, 7211 Michigan Ave.
Pigeon, MI 48755
Phone: 989-453-4500

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

Direct Enterprises
P.O. Box 978
Westfield, IN 46074
888-895-7333

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

Excel Brand Seed
257 East Hail
Bushnell, IL 61422
Phone: 800-969-6717

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

Hyland Seeds
2 Hyland Drive
Blenheim, Ontario N0PIA0
Phone: 519-676-8146

Michigan Crop Improvement Association
P.O. Box 21008, 2905 Jolly Road
Lansing, MI 48909
Phone: 517-332-3546

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

Pioneer Hi-Bred, Int'l. Inc.
59 Greif Parkway – Suite 200
Delaware, OH 43015
614-732-6757

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

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

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

Syngenta Seeds
P.O. Box 411, 520 E. 1050 South
Brookston, IN 47923
Phone: 765-563-3111

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

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

2011 Michigan State University Wheat Performance Trials (Including Experimentals)

Multi-year data are the most informative.
MSU makes no endorsement of any variety or brand.

Table 1 : Multi-Year Performance Summary (Note: Tables sorted by 2011 Yield, red wheats grouped before white)

Name	Grain Color	Chaff Color	Awns	Yield: Bushels/Acre (Adjusted to 13.5% Moisture) 2011	Yield: Multi-Year Averages 2 YR 2010-11	3 YR 2009-11	4 YR 2008-11	Test Weight: lbs/Bushel 2011	Test Weight: Multi-Year Averages 2 YR 2010-11	3 YR 2009-11	4 YR 2008-11	Percent Grain Moisture at Harvest 2011	Percent Grain Moisture: Multi-Year Averages 2 YR 2010-11	3 YR 2009-11	4 YR 2008-11	Organization
Sienna	Red	White	Awnless	97.0	-----	-----	-----	59.4	-----	-----	-----	13.2	-----	-----	-----	Direct Enterprises
Pioneer Brand 25R30	Red	White	Awned	96.3	-----	-----	-----	60.7	-----	-----	-----	14.0	-----	-----	-----	Pioneer Hi-Bred International
W1104	Red	White	Awnletted	94.1	91.9	-----	-----	59.3	58.0	-----	-----	13.9	13.8	-----	-----	Syngenta Seeds
Pioneer Brand 25R34	Red	White	Awned	94.1	-----	-----	-----	59.1	-----	-----	-----	14.0	-----	-----	-----	Pioneer Hi-Bred International
Dyna-Gro Shirley	Red	White	Awnletted	94.0	-----	-----	-----	58.3	-----	-----	-----	15.1	-----	-----	-----	Dyna-Gro Seed
Red Devil	Red	White	Awned	94.0	94.5	-----	-----	60.5	59.6	-----	-----	13.9	14.0	-----	-----	Michigan Crop Improvement Assn.
MCIA196	Red	White	Awnless	93.9	-----	-----	-----	59.4	-----	-----	-----	13.4	-----	-----	-----	Michigan Crop Improvement Assn.
Dyna-Gro 9922	Red	White	Awned	93.8	92.7	-----	-----	60.1	59.3	-----	-----	14.1	14.2	-----	-----	Dyna-Gro Seed
DF105R	Red	White	Awned	93.8	-----	-----	-----	59.2	-----	-----	-----	12.4	-----	-----	-----	D.F. Seeds, Inc.
W123	Red	White	Awnletted	93.7	89.5	-----	-----	59.3	58.3	-----	-----	12.7	13.1	-----	-----	Wellman Seeds, Inc.
Branson	Red	White	Awnletted	93.2	92.6	93.7	92.0	59.6	58.7	58.4	59.0	13.1	13.4	13.8	13.9	Syngenta Seeds
RS967	Red	White	Awned	92.4	92.9	-----	-----	61.1	60.1	-----	-----	13.3	13.5	-----	-----	Rupp Seeds, Inc.
Dyna-Gro 9042	Red	White	Awnletted	92.2	90.1	-----	-----	59.8	58.9	-----	-----	13.0	13.5	-----	-----	Dyna-Gro Seed
Steyer Ashlyn	Red	White	Awned	92.2	-----	-----	-----	61.2	-----	-----	-----	13.2	-----	-----	-----	Steyer Seeds
Sunburst	Red	White	Tip Awned	92.1	90.9	92.9	91.0	59.1	59.8	60.0	60.4	12.8	14.1	14.8	15.0	Wellman Seeds, Inc.
DF107R	Red	White	Awnletted	92.1	-----	-----	-----	59.9	-----	-----	-----	13.1	-----	-----	-----	D.F. Seeds, Inc.
RS935	Red	White	Awned	91.5	91.6	-----	-----	58.9	58.0	-----	-----	12.6	12.9	-----	-----	Rupp Seeds, Inc.
Steyer Marion	Red	White	Awnletted	91.5	-----	-----	-----	59.5	-----	-----	-----	13.2	-----	-----	-----	Steyer Seeds
Red Dragon	Red	White	Awnletted	91.2	90.4	-----	-----	59.5	58.6	-----	-----	13.3	13.5	-----	-----	Michigan Crop Improvement Assn.
MCIA Butch	Red	White	Awnletted	91.0	89.5	90.4	91.3	58.4	57.0	56.8	57.5	12.9	13.0	13.2	13.5	Michigan Crop Improvement Assn.
Pioneer Brand 25R39	Red	White	Tip Awned	91.0	86.9	88.8	-----	60.2	58.5	58.4	-----	14.0	14.1	14.5	-----	Pioneer Hi-Bred International
DF108R	Red	White	Awned	91.0	-----	-----	-----	61.0	-----	-----	-----	13.1	-----	-----	-----	D.F. Seeds, Inc.
Hyland Emmit	Red	White	Awnletted	90.8	88.5	90.5	90.5	59.2	58.4	58.2	58.9	14.8	14.8	15.0	15.0	Hyland Seeds
W124	Red	White	Awnletted	90.8	-----	-----	-----	60.9	-----	-----	-----	13.0	-----	-----	-----	Wellman Seeds, Inc.
Merl	Red	White	Awnletted	90.7	85.7	88.7	-----	60.7	59.8	59.7	-----	14.5	14.5	14.9	-----	Virginia Tech
Malabar	Red	White	Awnletted	90.6	89.0	90.5	90.6	60.6	59.5	59.1	59.5	13.4	13.7	13.9	14.0	Ohio Seed Improvement Assn.
DW EXP102	Red	White	Awnless	90.2	-----	-----	-----	60.7	-----	-----	-----	12.9	-----	-----	-----	Direct Enterprises
Red Ruby	Red	White	Awned	89.9	89.9	92.6	93.1	60.7	59.6	59.0	59.8	13.2	13.8	14.3	14.4	Michigan Crop Improvement Assn.
Pioneer Brand 25R47	Red	White	Awned	89.7	90.7	92.9	93.1	58.1	57.6	57.2	58.1	13.6	13.9	14.2	14.4	Pioneer Hi-Bred International
RS978	Red	White	Tip Awned	89.2	88.3	90.2	90.9	59.5	58.4	58.0	58.6	13.0	13.2	13.4	13.6	Rupp Seeds, Inc.
Hyland HY116-SRW	Red	White	Awnletted	89.2	86.1	87.3	-----	59.3	58.0	57.9	-----	13.4	13.5	13.8	-----	Hyland Seeds
Hopewell	Red	Bronze	Awnletted	89.0	89.2	90.9	90.9	60.6	59.2	58.7	59.2	13.6	13.8	13.9	14.0	Michigan Crop Improvement Assn.
GB203	Red	White	Awnletted	88.5	-----	-----	-----	59.2	-----	-----	-----	14.4	-----	-----	-----	Platnium Genetics, LLC
Dyna-Gro 9053	Red	White	Awned	88.3	-----	-----	-----	57.7	-----	-----	-----	12.8	-----	-----	-----	Dyna-Gro Seed
Steyer Jordan	Red	White	Awnletted	88.1	-----	-----	-----	61.3	-----	-----	-----	13.3	-----	-----	-----	Steyer Seeds
Steyer Crestline	Red	White	Awnletted	87.6	-----	-----	-----	61.4	-----	-----	-----	13.1	-----	-----	-----	Steyer Seeds
VA05W-251	Red	White	Awnletted	87.5	-----	-----	-----	59.7	-----	-----	-----	12.6	-----	-----	-----	Virginia Tech
W1566	Red	White	Awnletted	87.4	88.6	89.6	-----	58.5	58.0	57.7	-----	13.4	13.7	14.1	-----	Syngenta Seeds
RS934	Red	White	Awnletted	86.9	86.9	-----	-----	61.1	60.5	-----	-----	13.3	13.7	-----	-----	Rupp Seeds, Inc.
R055	Red	White	Tip Awned	86.7	87.2	89.6	88.7	59.7	58.9	58.9	59.4	13.8	13.9	14.3	14.6	D.F. Seeds, Inc.
Pioneer Brand 25R32	Red	White	Awned	86.4	-----	-----	-----	60.9	-----	-----	-----	13.2	-----	-----	-----	Pioneer Hi-Bred International
R045	Red	White	Tip Awned	86.2	83.4	87.2	88.8	60.5	59.2	59.0	59.7	13.8	13.9	14.3	14.6	D.F. Seeds, Inc.
R075	Red	White	Awnletted	86.2	84.1	87.8	89.3	60.1	58.9	58.9	59.5	13.8	13.8	14.3	14.5	D.F. Seeds, Inc.
AG1189	Red	White	Awned	85.6	-----	-----	-----	60.0	-----	-----	-----	15.1	-----	-----	-----	Michigan Crop Improvement Assn.
Quest	Red	White	Awnletted	85.5	-----	-----	-----	58.8	-----	-----	-----	12.9	-----	-----	-----	Direct Enterprises
Hyland TW271-099	Red	White	Awned	84.8	-----	-----	-----	60.9	-----	-----	-----	13.4	-----	-----	-----	Hyland Seeds
INW1021	Red	White	Awnletted	84.8	-----	-----	-----	58.5	-----	-----	-----	13.6	-----	-----	-----	Michigan Crop Improvement Assn.
VA05W-139	Red	White	Awnletted	82.6	-----	-----	-----	60.0	-----	-----	-----	13.9	-----	-----	-----	Virginia Tech
Excel 168	Red	White	Awnletted	79.7	-----	-----	-----	62.7	-----	-----	-----	13.0	-----	-----	-----	Excel Brand Seed

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Jupiter	White	Bronze	Awnletted	89.3	88.3	90.1	91.8	58.9	57.7	57.1	58.0	13.4	13.6	13.9	14.1	Michigan Crop Improvement Assn.
Envoy	White	White	Awned	88.9	89.3	90.4	89.7	60.3	59.4	59.0	59.6	13.4	13.7	14.0	14.1	Cooperative Elevator Co.
W1062	White	White	Tip Awned	88.1	86.1	87.7	88.3	58.9	57.8	57.2	58.0	15.2	15.4	15.5	15.4	Syngenta Seeds
Linebacker	White	White	Awnletted	88.0	86.0	86.7	-----	58.4	57.1	56.7	-----	15.7	16.5	16.3	-----	D.F. Seeds, Inc.
Ambassador	White	White	Awnletted	87.3	88.5	91.5	91.8	58.6	57.7	57.0	57.5	12.6	13.0	13.1	13.1	D.F. Seeds, Inc. / Cooperative Elevator Co.
AC Mountain	White	White	Awnletted	87.1	85.1	87.7	87.5	58.7	58.1	57.6	58.2	12.9	13.2	13.3	13.4	Michigan Crop Improvement Assn.
Coral	White	Bronze	Awnletted	86.6	85.4	88.2	88.0	59.0	58.0	57.8	58.5	14.8	15.1	15.0	14.9	Michigan Crop Improvement Assn.
Pioneer Brand 25W43	White	White	Tip Awned	86.6	84.5	87.9	87.8	59.0	58.0	57.4	58.0	13.3	13.5	13.7	14.0	Pioneer Hi-Bred International
Hyland TW319-SWW	White	White	Awnletted	86.4	86.7	-----	-----	60.3	59.0	-----	-----	13.4	13.8	-----	-----	Hyland Seeds
Dyna-Gro 9242W	White	White	Awnletted	85.9	-----	-----	-----	60.2	-----	-----	-----	13.3	-----	-----	-----	Dyna-Gro Seed
Hyland Ava	White	White	Awnletted	85.7	84.5	88.5	89.1	58.2	57.1	57.1	58.0	16.3	16.3	16.0	15.8	Hyland Seeds
MSU Line E8052	White	White	Awned	85.6	-----	-----	-----	58.8	-----	-----	-----	13.5	-----	-----	-----	Michigan State University
MSU Line E5024	White	White	Awned	85.5	85.2	88.0	88.6	60.2	59.1	58.9	59.4	13.8	13.9	14.3	14.4	Michigan Crop Improvement Assn.
MSU Line E6012	White	White	Awned	85.3	86.3	87.7	-----	60.2	59.1	58.6	-----	13.0	13.2	13.4	-----	Michigan State University
Caledonia	White	White	Awnletted	84.9	82.7	85.2	84.8	58.8	57.6	57.1	58.0	13.8	14.0	14.2	14.2	Harrington Seeds, Inc.
Aubrey	White	White	Awnletted	84.9	87.7	89.0	88.4	61.6	60.4	59.7	60.1	13.6	14.0	14.1	14.3	D.F. Seeds, Inc. / Cooperative Elevator Co.
Abbey	White	White	Awnletted	83.0	81.2	-----	-----	58.2	57.2	-----	-----	17.7	18.1	-----	-----	Harrington Seeds, Inc.
MSU Line E6032	White	White	Awned	82.4	-----	-----	-----	59.4	-----	-----	-----	14.2	-----	-----	-----	Michigan State University
Crystal	White	White	Awned	82.3	81.9	85.3	86.4	59.7	58.2	57.6	58.3	12.3	12.6	12.9	13.0	Michigan Crop Improvement Assn.
MSU D8006	White	White	Awned	82.2	84.5	87.0	87.8	59.0	58.4	57.9	58.6	13.0	13.3	13.7	13.9	Michigan Crop Improvement Assn.
MSU D6234	White	White	Tip Awned	82.0	83.6	85.9	86.9	60.0	58.9	58.5	59.1	14.4	14.3	14.5	14.7	Michigan Crop Improvement Assn.
MEAN (2011 = 76 Entries)				**87.5**	**87.6**	**89.1**	**89.5**	**59.5**	**58.6**	**58.2**	**58.8**	**13.7**	**13.9**	**14.2**	**14.3**	
LSD (0.05)				**2.2**	**4.8**	**3.9**	**3.5**	**0.4**	**1.1**	**0.9**	**0.8**	**0.3**	**0.7**	**0.7**	**0.6**	
CV (%)				**4.5**	**2.7**	**2.7**	**2.8**	**1.1**	**0.9**	**1.0**	**1.0**	**4.3**	**2.4**	**3.1**	**3.0**	

2011 Michigan State University Wheat Performance Trials (Including Experimentals)

Multi-year data are the most informative.
MSU makes no endorsement of any variety or brand.

Table 2 : Multi-Year Performance Summary (Note: Tables sorted by 2011 Yield, red wheats grouped before white)

Name	Grain Color	Flowering Date (Days Past Jan. 1) 2011	Flowering Date Multi-Year Averages 2 YR 2010-11	3 YR 2009-11	4 YR 2008-11	Plant Height (Inches) 2011	Plant Height Multi-Year Averages 2 YR 2010-11	3 YR 2009-11	4 YR 2008-11	Lodging Score (0-9) (0=none) 2010	2 YR 09-10	Winter Injury Score (0-9) 2008	Powdery Mildew Score (0-9) 2011	Powdery Mildew Multi-Year Averages 2 YR 2010-11	3 YR 2009-11	4 YR 2008-11	Leaf Blotch Score (0-9) 2011	Leaf Blotch Multi-Year Averages 2 YR 2010-11	3 YR 2009-11	4 YR 2008-11	Black Point Percent 2008
Sienna	Red	153.2	-----	-----	-----	39.9	-----	-----	-----	-----	-----	-----	0.7	-----	-----	-----	3.1	-----	-----	-----	-----
Pioneer Brand 25R30	Red	154.5	-----	-----	-----	34.7	-----	-----	-----	-----	-----	-----	2.5	-----	-----	-----	2.3	-----	-----	-----	-----
W1104	Red	154.3	150.9	-----	-----	34.7	34.7	-----	-----	3.3	3.3	-----	0.1	1.2	-----	-----	4.0	2.9	-----	-----	-----
Pioneer Brand 25R34	Red	153.3	-----	-----	-----	34.0	-----	-----	-----	-----	-----	-----	4.0	-----	-----	-----	3.1	-----	-----	-----	-----
Dyna-Gro Shirley	Red	154.7	-----	-----	-----	31.7	-----	-----	-----	-----	-----	-----	-0.4	-----	-----	-----	2.6	-----	-----	-----	-----
Red Devil	Red	153.9	150.4	-----	-----	35.6	34.9	-----	-----	2.0	-----	-----	1.0	0.6	-----	-----	1.9	2.0	-----	-----	-----
MCIA196	Red	153.2	-----	-----	-----	38.1	-----	-----	-----	-----	-----	-----	0.7	-----	-----	-----	4.0	-----	-----	-----	-----
Dyna-Gro 9922	Red	154.2	150.9	-----	-----	35.7	35.4	-----	-----	1.6	-----	-----	2.0	1.2	-----	-----	2.0	2.0	-----	-----	-----
DF105R	Red	153.7	-----	-----	-----	32.5	-----	-----	-----	-----	-----	-----	2.7	-----	-----	-----	5.5	-----	-----	-----	-----
W123	Red	153.0	150.1	-----	-----	33.1	33.5	-----	-----	4.2	-----	-----	-0.3	0.6	-----	-----	4.5	3.3	-----	-----	-----
Branson	Red	153.1	150.0	151.7	152.2	34.4	33.7	35.2	34.4	3.4	5.0	0.7	2.1	1.6	1.6	1.7	2.4	1.9	1.9	2.2	2.6
RS967	Red	153.1	150.1	-----	-----	32.9	34.3	-----	-----	1.7	-----	-----	3.3	2.7	-----	-----	2.9	2.4	-----	-----	-----
Dyna-Gro 9042	Red	154.3	151.1	-----	-----	32.4	32.1	-----	-----	1.7	-----	-----	1.9	2.2	-----	-----	2.6	2.2	-----	-----	-----
Steyer Ashlyn	Red	153.4	-----	-----	-----	33.7	-----	-----	-----	-----	-----	-----	2.5	-----	-----	-----	2.5	-----	-----	-----	-----
Sunburst	Red	153.2	151.2	153.4	153.9	34.0	32.9	33.2	32.2	1.6	3.0	0.1	1.8	1.4	1.1	0.9	2.5	3.0	3.1	2.9	11.6
DF107R	Red	154.3	-----	-----	-----	32.8	-----	-----	-----	-----	-----	-----	2.5	-----	-----	-----	2.8	-----	-----	-----	-----
RS935	Red	154.0	150.5	-----	-----	31.6	32.2	-----	-----	3.8	-----	-----	3.3	2.8	-----	-----	4.9	3.9	-----	-----	-----
Steyer Marion	Red	154.2	-----	-----	-----	32.8	-----	-----	-----	-----	-----	-----	-0.2	-----	-----	-----	5.9	-----	-----	-----	-----
Red Dragon	Red	153.0	149.7	-----	-----	38.4	37.8	-----	-----	2.1	-----	-----	0.7	2.1	-----	-----	5.2	3.9	-----	-----	-----
MCIA Butch	Red	154.4	151.1	153.3	153.7	32.4	32.5	33.4	32.5	1.3	3.9	0.3	2.4	2.2	2.1	2.1	2.4	2.8	2.8	2.8	6.7
Pioneer Brand 25R39	Red	155.0	152.3	154.3	-----	34.2	34.5	36.5	-----	3.8	5.8	-----	2.2	3.4	3.5	-----	4.9	3.7	3.5	-----	-----
DF108R	Red	153.1	-----	-----	-----	33.6	-----	-----	-----	-----	-----	-----	2.0	-----	-----	-----	3.5	-----	-----	-----	-----
Hyland Emmit	Red	155.2	152.1	154.0	154.3	37.3	36.9	38.5	37.3	1.5	4.5	0.6	3.3	3.8	3.5	3.6	3.4	2.9	2.9	2.7	23.0
W124	Red	153.2	-----	-----	-----	36.2	-----	-----	-----	-----	-----	-----	1.9	-----	-----	-----	4.3	-----	-----	-----	-----
Merl	Red	152.9	149.7	151.4	-----	33.8	33.2	34.9	-----	3.2	5.7	-----	2.4	1.8	1.4	-----	2.9	3.2	3.0	-----	-----
Malabar	Red	153.4	151.0	152.9	153.2	37.5	37.4	38.7	37.4	1.1	2.9	0.2	0.1	1.6	1.8	2.2	5.4	3.8	3.2	3.1	5.8
DW EXP102	Red	153.2	-----	-----	-----	36.5	-----	-----	-----	-----	-----	-----	4.0	-----	-----	-----	3.9	-----	-----	-----	-----
Red Ruby	Red	154.6	151.7	153.7	154.1	34.6	35.4	36.8	36.0	1.5	4.0	0.2	0.3	1.5	1.8	1.9	5.1	3.2	3.1	3.1	12.2
Pioneer Brand 25R47	Red	153.4	150.2	152.2	152.7	33.4	33.6	34.6	33.8	3.4	4.1	0.1	2.8	3.2	3.3	3.6	4.1	3.2	3.1	3.1	9.0
RS978	Red	152.9	149.7	151.7	152.1	37.6	37.3	39.5	38.6	3.7	5.9	0.1	2.6	3.0	3.0	3.2	3.5	2.6	2.5	2.3	2.4
Hyland HY116-SRW	Red	155.1	152.4	154.3	-----	37.8	37.0	38.6	-----	3.5	5.9	-----	1.8	1.0	1.0	-----	2.5	1.9	1.8	-----	-----
Hopewell	Red	154.9	151.5	153.5	153.9	35.0	35.4	36.8	36.1	1.3	2.9	0.2	1.4	2.0	2.1	2.4	5.5	3.7	3.2	3.2	1.6
GB203	Red	154.9	-----	-----	-----	35.9	-----	-----	-----	-----	-----	-----	1.8	-----	-----	-----	3.7	-----	-----	-----	-----
Dyna-Gro 9053	Red	154.4	-----	-----	-----	33.5	-----	-----	-----	-----	-----	-----	2.1	-----	-----	-----	5.1	-----	-----	-----	-----
Steyer Jordan	Red	153.1	-----	-----	-----	33.8	-----	-----	-----	-----	-----	-----	0.4	-----	-----	-----	4.8	-----	-----	-----	-----
Steyer Crestline	Red	153.0	-----	-----	-----	35.0	-----	-----	-----	-----	-----	-----	0.3	-----	-----	-----	5.0	-----	-----	-----	-----
VA05W-251	Red	154.0	-----	-----	-----	32.1	-----	-----	-----	-----	-----	-----	2.1	-----	-----	-----	4.4	-----	-----	-----	-----
W1566	Red	154.3	151.0	152.9	-----	38.5	39.1	41.6	-----	3.5	5.4	-----	2.1	1.3	1.0	-----	3.9	3.4	3.1	-----	-----
RS934	Red	152.8	149.4	-----	-----	35.0	34.6	-----	-----	3.0	-----	-----	1.5	1.8	-----	-----	2.2	2.4	-----	-----	-----
R055	Red	154.7	151.3	153.2	153.5	33.9	34.5	36.6	35.5	4.5	6.5	0.1	1.6	1.5	1.5	1.7	3.7	3.2	3.1	3.1	4.5
Pioneer Brand 25R32	Red	154.3	-----	-----	-----	33.6	-----	-----	-----	-----	-----	-----	3.0	-----	-----	-----	2.6	-----	-----	-----	-----
R045	Red	153.5	150.5	152.5	152.8	33.7	33.5	35.2	34.6	2.7	4.1	0.2	5.1	4.3	4.1	4.3	6.6	4.5	4.0	3.7	24.2
R075	Red	153.4	150.4	152.5	152.9	33.4	33.3	35.0	34.5	2.4	3.5	0.2	4.4	4.0	4.0	4.3	5.0	3.8	3.3	3.2	27.5
AG1189	Red	154.0	-----	-----	-----	34.7	-----	-----	-----	-----	-----	-----	2.4	-----	-----	-----	3.5	-----	-----	-----	-----
Quest	Red	154.4	-----	-----	-----	35.0	-----	-----	-----	-----	-----	-----	3.6	-----	-----	-----	4.7	-----	-----	-----	-----
Hyland TW271-099	Red	154.1	-----	-----	-----	35.0	-----	-----	-----	-----	-----	-----	2.3	-----	-----	-----	2.9	-----	-----	-----	-----
INW1021	Red	153.1	-----	-----	-----	37.6	-----	-----	-----	-----	-----	-----	1.7	-----	-----	-----	5.5	-----	-----	-----	-----
VA05W-139	Red	154.5	-----	-----	-----	31.6	-----	-----	-----	-----	-----	-----	2.2	-----	-----	-----	2.8	-----	-----	-----	-----
Excel 168	Red	152.5	-----	-----	-----	35.7	-----	-----	-----	-----	-----	-----	3.9	-----	-----	-----	2.6	-----	-----	-----	-----

2011 Michigan State University Wheat Performance Trials (Including Experimentals)

Multi-year data are the most informative.
MSU makes no endorsement of any variety or brand.

Table 2 : Multi-Year Performance Summary (Note: Tables sorted by 2011 Yield, red wheats grouped before white)

Name	Grain Color	Flowering Date (Days Past Jan. 1) 2011	Flowering Date Multi-Year Averages 2 YR 2010-11	3 YR 2009-11	4 YR 2008-11	Plant Height (Inches) 2011	Plant Height Multi-Year Averages 2 YR 2010-11	3 YR 2009-11	4 YR 2008-11	Lodging Score (0-9) (0=none) 2010	2 YR 09-10	Winter Injury Score (0-9) 2008	Powdery Mildew Score (0-9) 2011	Powdery Mildew Multi-Year Averages 2 YR 2010-11	3 YR 2009-11	4 YR 2008-11	Leaf Blotch Score (0-9) 2011	Leaf Blotch Multi-Year Averages 2 YR 2010-11	3 YR 2009-11	4 YR 2008-11	Black Point Percent 2008
Jupiter	White	155.3	152.3	154.1	154.3	33.1	32.7	34.6	33.9	2.1	5.3	0.1	2.3	1.9	1.8	2.0	6.5	4.5	4.0	3.8	2.9
Envoy	White	155.1	152.2	154.0	154.2	33.4	34.9	36.0	35.1	1.5	3.8	-0.2	-0.1	0.5	1.1	1.2	4.9	3.7	3.3	3.3	5.6
W1062	White	155.1	151.8	153.8	154.1	35.3	35.4	37.6	36.7	3.2	5.9	0.8	0.8	2.1	2.4	2.7	3.4	2.8	2.9	2.9	2.7
Linebacker	White	155.7	152.5	154.3	-----	36.1	36.9	38.7	-----	1.8	5.2	-----	4.1	4.1	4.0	-----	4.5	3.5	3.5	-----	-----
Ambassador	White	153.7	150.5	152.5	153.1	34.7	35.5	37.2	36.0	2.4	5.5	0.1	0.4	1.7	1.9	2.1	5.5	4.1	3.6	3.8	2.7
AC Mountain	White	154.8	152.1	153.8	154.1	36.5	37.6	40.0	39.3	2.5	5.3	-0.3	3.3	3.0	3.3	3.4	5.2	3.6	3.5	3.1	3.7
Coral	White	155.7	152.7	154.5	154.7	36.6	36.9	38.6	37.4	2.0	5.3	0.0	4.0	3.7	3.7	4.0	3.6	3.0	3.2	3.3	2.9
Pioneer Brand 25W43	White	153.6	150.4	152.7	153.2	33.0	33.1	34.9	34.4	3.0	5.8	0.2	2.8	3.1	3.7	3.8	2.9	2.6	2.7	2.9	6.4
Hyland TW319-SWW	White	155.6	152.5	-----	-----	37.7	38.0	-----	-----	2.9	-----	-----	2.4	2.8	-----	-----	2.2	1.8	-----	-----	-----
Dyna-Gro 9242W	White	154.0	-----	-----	-----	35.4	-----	-----	-----	-----	-----	-----	1.8	-----	-----	-----	2.8	-----	-----	-----	-----
Hyland Ava	White	156.1	153.4	155.1	155.2	38.2	37.4	39.8	38.5	2.4	4.6	0.3	1.5	2.3	2.5	2.9	3.9	3.3	3.2	3.1	10.8
MSU Line E8052	White	154.7	-----	-----	-----	33.9	-----	-----	-----	-----	-----	-----	0.4	-----	-----	-----	4.9	-----	-----	-----	-----
MSU Line E5024	White	155.0	152.3	154.4	154.9	32.3	32.4	34.1	33.3	2.1	4.5	0.2	1.6	1.0	0.9	0.8	3.4	2.9	2.6	2.6	11.4
MSU Line E6012	White	154.6	151.3	153.6	-----	33.0	33.9	35.5	-----	2.9	5.6	-----	3.1	2.6	2.6	-----	3.4	3.1	3.0	-----	-----
Caledonia	White	155.3	152.0	153.8	154.0	34.4	35.0	36.8	35.7	1.6	4.6	0.4	3.1	3.2	3.1	3.2	5.1	3.7	3.5	3.5	3.9
Aubrey	White	153.4	150.1	151.8	152.3	35.9	35.9	37.9	36.4	2.7	4.0	0.1	2.3	1.6	1.5	1.6	3.4	2.8	2.7	2.7	9.6
Abbey	White	155.9	153.2	-----	-----	36.9	36.3	-----	-----	0.8	-----	-----	1.3	1.8	-----	-----	3.8	2.8	-----	-----	-----
MSU Line E6032	White	155.1	-----	-----	-----	31.8	-----	-----	-----	-----	-----	-----	0.3	-----	-----	-----	5.1	-----	-----	-----	-----
Crystal	White	155.2	152.2	154.1	154.3	34.0	34.2	36.0	35.0	1.9	4.6	0.2	2.2	2.3	2.0	2.0	3.3	2.9	2.7	3.0	0.8
MSU D8006	White	154.3	150.8	152.8	153.2	36.0	36.4	37.9	36.6	3.3	5.3	-0.2	3.0	2.7	2.4	2.4	3.4	3.0	3.1	3.0	27.7
MSU D6234	White	155.2	152.2	154.0	154.4	35.6	36.6	38.3	37.2	1.9	4.5	0.4	1.1	1.6	1.9	2.0	4.9	3.6	3.2	2.9	28.0
MEAN (2011 = 76 Entries)		**154.3**	**151.2**	**153.3**	**153.7**	**34.6**	**35.1**	**36.8**	**35.7**	**2.7**	**4.8**	**0.2**	**2.1**	**2.2**	**2.4**	**2.5**	**3.9**	**3.1**	**3.1**	**3.0**	**8.5**
LSD (0.05)		**0.5**	**0.9**	**0.7**	**0.6**	**1.1**	**1.8**	**1.6**	**1.4**	**1.4**	**1.9**	**0.4**	**0.7**	**2.0**	**1.3**	**1.0**	**0.6**	**1.8**	**1.2**	**1.0**	**13.9**
CV (%)		**0.3**	**0.3**	**0.3**	**0.3**	**3.2**	**2.5**	**2.7**	**2.7**	**38.8**	**20.1**	**204.7**	**25.8**	**45.4**	**34.6**	**27.6**	**13.0**	**29.4**	**24.7**	**23.9**	**82.4**

2011 Michigan State University Wheat Performance Trials (Including Experimentals)

Multi-year data are the most informative.
MSU makes no endorsement of any variety or brand.

Table 3 : Multi-Year Performance Summary (Note: Tables sorted by 2011 Yield, red wheats grouped before white)

Name	Grain Color	Stripe Rust Score (0-9)	Multi-Year Averages		Leaf Rust Score (0-9)	Stem Rust Score (0-9)	In Head Sprouting Score (0-9)	Fusarium Head Blight (Scab) Data : Field Observation Symptoms													
								Incidence (% of spikes)				Severity (% within spikes)				Index (% overall infection)				DON (ppm) in grain		
									Multi-Year Averages				Multi-Year Averages				Multi-Year Averages				Multi-Year Averages	
		2011	2 YR 2010-11	3 YR 2009-11	2011	2009	2008	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	2010	2 YR 2009-10	3 YR 2008-10
Sienna	Red	0.0	-----	-----	3.5	-----	-----	12.4	-----	-----	-----	37.4	-----	-----	-----	4.9	-----	-----	-----	-----	-----	-----
Pioneer Brand 25R30	Red	0.0	-----	-----	2.6	-----	-----	21.9	-----	-----	-----	23.8	-----	-----	-----	6.4	-----	-----	-----	-----	-----	-----
W1104	Red	0.1	0.0	-----	2.3	-----	-----	18.0	53.2	-----	-----	29.3	38.5	-----	-----	6.4	24.3	-----	-----	11.1	-----	-----
Pioneer Brand 25R34	Red	0.0	-----	-----	1.9	-----	-----	12.9	-----	-----	-----	26.7	-----	-----	-----	4.8	-----	-----	-----	-----	-----	-----
Dyna-Gro Shirley	Red	2.4	-----	-----	0.9	-----	-----	29.7	-----	-----	-----	21.7	-----	-----	-----	8.3	-----	-----	-----	-----	-----	-----
Red Devil	Red	2.0	1.2	-----	0.7	-----	-----	13.9	51.3	-----	-----	14.4	33.9	-----	-----	3.5	25.3	-----	-----	12.8	-----	-----
MCIA196	Red	0.0	-----	-----	3.7	-----	-----	14.0	-----	-----	-----	26.6	-----	-----	-----	4.8	-----	-----	-----	-----	-----	-----
Dyna-Gro 9922	Red	4.5	2.4	-----	1.3	-----	-----	11.0	51.1	-----	-----	26.5	37.8	-----	-----	3.7	24.2	-----	-----	11.4	-----	-----
DF105R	Red	-0.1	-----	-----	0.9	-----	-----	13.1	-----	-----	-----	21.5	-----	-----	-----	4.4	-----	-----	-----	-----	-----	-----
W123	Red	0.0	0.4	-----	4.7	-----	-----	19.6	48.8	-----	-----	38.3	43.4	-----	-----	7.3	22.6	-----	-----	10.9	-----	-----
Branson	Red	0.9	1.1	0.8	1.0	0.8	0.6	18.4	54.5	62.9	68.5	29.7	43.1	39.5	38.2	6.5	29.0	28.1	28.3	8.9	7.1	6.7
RS967	Red	0.0	0.7	-----	0.5	-----	-----	14.2	51.8	-----	-----	12.0	26.0	-----	-----	3.9	19.8	-----	-----	6.4	-----	-----
Dyna-Gro 9042	Red	-0.1	-0.4	-----	2.4	-----	-----	16.5	52.7	-----	-----	14.4	27.8	-----	-----	4.3	20.7	-----	-----	8.5	-----	-----
Steyer Ashlyn	Red	2.6	-----	-----	1.3	-----	-----	11.7	-----	-----	-----	13.9	-----	-----	-----	3.5	-----	-----	-----	-----	-----	-----
Sunburst	Red	0.0	0.5	0.3	4.6	-0.6	0.4	20.7	54.9	64.4	72.4	34.4	37.2	31.7	32.3	7.6	21.8	20.8	23.6	8.8	5.9	6.0
DF107R	Red	-0.1	-----	-----	1.7	-----	-----	14.0	-----	-----	-----	10.5	-----	-----	-----	3.4	-----	-----	-----	-----	-----	-----
RS935	Red	0.0	0.4	-----	1.5	-----	-----	13.2	53.9	-----	-----	18.5	29.8	-----	-----	4.3	21.4	-----	-----	10.3	-----	-----
Steyer Marion	Red	0.0	-----	-----	2.3	-----	-----	17.6	-----	-----	-----	13.9	-----	-----	-----	4.8	-----	-----	-----	-----	-----	-----
Red Dragon	Red	-0.1	0.8	-----	2.4	-----	-----	16.8	52.0	-----	-----	39.5	45.6	-----	-----	6.7	25.8	-----	-----	11.2	-----	-----
MCIA Butch	Red	0.0	0.6	0.4	5.0	0.9	1.5	26.0	60.2	70.3	76.6	39.0	52.0	52.7	52.9	10.8	36.1	40.8	43.3	22.8	17.9	15.8
Pioneer Brand 25R39	Red	1.4	1.1	0.9	2.0	0.6	-----	12.1	50.6	55.5	-----	26.6	42.5	42.7	-----	5.2	28.7	28.8	-----	10.5	7.8	-----
DF108R	Red	0.1	-----	-----	1.4	-----	-----	14.0	-----	-----	-----	11.6	-----	-----	-----	3.8	-----	-----	-----	-----	-----	-----
Hyland Emmit	Red	1.6	2.7	2.0	3.0	1.9	1.5	13.6	47.4	57.1	60.8	26.2	41.8	39.7	38.3	4.7	25.6	26.4	26.1	11.5	7.5	6.8
W124	Red	0.0	-----	-----	1.7	-----	-----	13.1	-----	-----	-----	30.5	-----	-----	-----	4.8	-----	-----	-----	-----	-----	-----
Merl	Red	-0.1	0.6	0.3	1.6	1.8	-----	20.0	55.1	64.0	-----	36.8	44.0	43.6	-----	7.8	27.1	29.9	-----	14.7	11.7	-----
Malabar	Red	-0.1	1.2	1.0	6.4	5.3	1.9	12.1	45.7	55.9	62.6	10.9	23.7	22.9	21.6	2.5	15.7	15.6	15.2	9.0	6.3	5.8
DW EXP102	Red	0.1	-----	-----	0.8	-----	-----	12.6	-----	-----	-----	16.6	-----	-----	-----	3.9	-----	-----	-----	-----	-----	-----
Red Ruby	Red	2.6	2.9	2.1	3.1	4.4	1.6	22.7	58.7	71.4	76.8	21.0	40.8	38.6	40.4	6.2	31.9	32.0	34.9	14.2	10.8	10.8
Pioneer Brand 25R47	Red	0.0	0.7	0.6	1.6	4.1	3.8	16.2	54.5	63.8	67.1	26.9	37.2	34.9	31.8	5.7	24.6	25.2	23.2	8.9	6.6	6.6
RS978	Red	0.0	1.0	0.7	1.2	2.6	4.1	16.1	51.5	56.1	61.0	39.7	45.6	42.6	41.9	6.9	25.6	25.2	26.1	10.1	6.7	6.3
Hyland HY116-SRW	Red	3.6	2.6	1.9	1.1	-0.5	-----	24.9	56.2	63.1	-----	14.2	27.3	30.2	-----	4.8	20.0	22.0	-----	11.1	7.1	-----
Hopewell	Red	-0.1	0.2	0.1	3.2	1.5	0.5	16.6	51.5	62.8	69.1	14.5	37.0	36.1	36.7	4.1	27.7	28.9	30.3	18.4	13.4	11.4
GB203	Red	0.9	-----	-----	1.3	-----	-----	11.5	-----	-----	-----	11.9	-----	-----	-----	2.9	-----	-----	-----	-----	-----	-----
Dyna-Gro 9053	Red	-0.1	-----	-----	1.6	-----	-----	23.2	-----	-----	-----	15.0	-----	-----	-----	5.1	-----	-----	-----	-----	-----	-----
Steyer Jordan	Red	-0.1	-----	-----	2.6	-----	-----	15.5	-----	-----	-----	31.9	-----	-----	-----	5.3	-----	-----	-----	-----	-----	-----
Steyer Crestline	Red	0.1	-----	-----	1.2	-----	-----	16.4	-----	-----	-----	22.2	-----	-----	-----	5.1	-----	-----	-----	-----	-----	-----
VA05W-251	Red	1.0	-----	-----	0.6	-----	-----	17.6	-----	-----	-----	29.1	-----	-----	-----	5.9	-----	-----	-----	-----	-----	-----
W1566	Red	-0.1	0.8	0.5	1.4	0.5	-----	16.6	54.6	62.0	-----	39.1	52.8	50.8	-----	6.6	34.0	34.8	-----	16.4	14.9	-----
RS934	Red	0.1	0.4	-----	0.8	-----	-----	16.1	51.0	-----	-----	17.7	25.2	-----	-----	4.9	16.4	-----	-----	5.1	-----	-----
R055	Red	0.1	0.8	0.7	0.9	0.7	3.0	21.0	57.1	65.7	70.3	30.7	37.5	35.5	33.2	8.1	24.5	25.6	24.8	7.9	5.7	5.5
Pioneer Brand 25R32	Red	-0.1	-----	-----	4.2	-----	-----	10.8	-----	-----	-----	2.5	-----	-----	-----	2.6	-----	-----	-----	-----	-----	-----
R045	Red	0.0	3.4	2.4	1.1	1.8	1.0	16.0	51.3	54.7	63.0	33.2	43.0	40.5	37.3	6.5	26.0	25.3	25.1	9.7	7.5	7.5
R075	Red	1.0	3.2	2.8	2.1	0.8	1.0	23.4	55.4	60.3	62.7	32.5	40.9	39.6	36.3	9.0	26.1	26.5	24.6	10.0	7.3	6.6
AG1189	Red	2.5	-----	-----	0.7	-----	-----	14.3	-----	-----	-----	21.1	-----	-----	-----	4.2	-----	-----	-----	-----	-----	-----
Quest	Red	0.0	-----	-----	1.1	-----	-----	11.9	-----	-----	-----	19.5	-----	-----	-----	3.5	-----	-----	-----	-----	-----	-----
Hyland TW271-099	Red	2.3	-----	-----	1.3	-----	-----	16.0	-----	-----	-----	10.9	-----	-----	-----	3.8	-----	-----	-----	-----	-----	-----
INW1021	Red	3.5	-----	-----	2.5	-----	-----	16.6	-----	-----	-----	10.9	-----	-----	-----	4.3	-----	-----	-----	-----	-----	-----
VA05W-139	Red	0.1	-----	-----	1.4	-----	-----	21.0	-----	-----	-----	44.8	-----	-----	-----	10.0	-----	-----	-----	-----	-----	-----
Excel 168	Red	0.0	-----	-----	0.9	-----	-----	14.8	-----	-----	-----	23.3	-----	-----	-----	5.1	-----	-----	-----	-----	-----	-----

2011 Michigan State University Wheat Performance Trials (Including Experimentals)

Multi-year data are the most informative.
MSU makes no endorsement of any variety or brand.

Table 3 : Multi-Year Performance Summary (Note: Tables sorted by 2011 Yield, red wheats grouped before white)

Name	Grain Color	Stripe Rust Score (0-9)	Multi-Year Averages		Leaf Rust Score (0-9)	Stem Rust Score (0-9)	In Head Sprouting Score (0-9)	Fusarium Head Blight (Scab) Data : Field Observation Symptoms												DON (ppm) in grain	Multi-Year Averages	
								Incidence (% of spikes)	Multi-Year Averages			Severity (% within spikes)	Multi-Year Averages			Index (% overall infection)	Multi-Year Averages					
		2011	2 YR 2010-11	3 YR 2009-11	2011	2009	2008	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	2010	2 YR 2009-10	3 YR 2008-10
Jupiter	White	0.0	0.1	0.3	2.6	4.4	7.2	26.5	60.7	72.4	76.9	41.7	47.2	46.9	47.1	13.6	32.0	36.0	38.0	14.7	11.0	11.3
Envoy	White	1.6	1.3	1.2	2.6	4.2	3.0	25.5	59.3	70.3	70.8	19.4	36.1	35.6	32.6	6.2	27.7	29.4	26.6	16.1	12.5	11.2
W1062	White	-0.1	0.0	0.1	1.6	4.1	3.7	29.2	58.9	69.0	75.0	40.3	48.3	44.3	47.6	13.4	31.8	31.8	37.0	14.3	10.6	10.6
Linebacker	White	0.0	0.9	0.8	4.0	4.4	-----	10.4	46.1	57.7	-----	33.7	44.7	42.8	-----	4.7	25.4	27.6	-----	11.1	7.7	-----
Ambassador	White	-0.1	1.3	1.0	2.5	4.9	6.7	27.0	56.6	65.8	72.0	47.3	59.3	56.7	58.0	13.5	37.4	39.1	43.5	20.2	15.7	14.8
AC Mountain	White	3.5	2.8	2.1	3.3	4.2	7.8	20.9	49.6	57.4	63.6	35.2	51.4	49.1	48.9	8.7	30.5	31.0	33.2	17.5	12.3	10.9
Coral	White	3.6	2.7	2.3	1.2	6.1	6.2	20.6	53.6	59.4	66.6	32.1	43.0	42.5	42.8	8.0	27.4	27.5	30.1	13.9	9.0	9.1
Pioneer Brand 25W43	White	0.1	-0.2	-0.2	2.0	-0.1	4.8	17.6	51.9	56.4	61.2	17.9	32.8	28.6	26.5	4.8	23.0	20.5	19.7	9.5	6.8	6.6
Hyland TW319-SWW	White	0.0	0.3	-----	0.5	-----	-----	13.6	52.3	-----	-----	31.7	45.9	-----	-----	5.6	30.1	-----	-----	21.6	-----	-----
Dyna-Gro 9242W	White	2.0	-----	-----	1.5	-----	-----	10.2	-----	-----	-----	8.1	-----	-----	-----	2.4	-----	-----	-----	-----	-----	-----
Hyland Ava	White	0.0	0.5	0.3	1.7	4.0	6.1	19.5	43.9	49.4	57.8	28.6	39.6	37.7	34.9	6.9	20.3	19.9	20.5	5.1	3.7	4.2
MSU Line E8052	White	-0.1	-----	-----	1.5	-----	-----	20.5	-----	-----	-----	12.3	-----	-----	-----	4.4	-----	-----	-----	-----	-----	-----
MSU Line E5024	White	2.6	3.3	2.4	1.5	0.4	3.2	13.5	54.1	66.0	70.5	8.0	25.9	26.2	26.6	0.9	21.3	22.3	22.6	14.1	9.5	10.1
MSU Line E6012	White	-0.1	0.2	0.2	3.6	3.2	-----	22.9	56.0	65.1	-----	13.9	34.5	30.9	-----	5.1	27.1	24.7	-----	10.8	7.5	-----
Caledonia	White	0.2	1.0	0.8	3.5	5.5	4.7	34.5	61.6	67.0	73.9	47.4	56.1	53.4	54.8	18.8	38.2	38.9	43.1	22.9	16.4	15.9
Aubrey	White	0.0	0.4	0.3	2.5	3.9	7.7	28.3	54.9	56.9	63.0	27.6	38.3	38.0	34.6	9.5	24.8	24.7	23.6	16.5	10.4	8.9
Abbey	White	0.0	0.5	-----	1.8	-----	-----	22.5	52.4	-----	-----	44.2	47.2	-----	-----	13.1	27.1	-----	-----	19.3	-----	-----
MSU Line E6032	White	0.1	-----	-----	3.1	-----	-----	20.0	-----	-----	-----	13.7	-----	-----	-----	4.5	-----	-----	-----	-----	-----	-----
Crystal	White	5.6	4.9	3.5	2.6	4.4	7.0	22.6	58.2	68.9	76.5	18.7	41.7	43.1	44.4	5.5	33.3	36.1	38.5	17.9	13.4	13.2
MSU D8006	White	0.1	0.4	0.3	2.4	4.0	4.9	23.4	56.5	63.9	71.5	34.5	47.3	43.4	45.1	8.7	31.2	30.3	34.7	12.2	9.4	9.2
MSU D6234	White	5.5	4.6	3.5	1.7	-0.1	5.4	29.9	61.4	62.8	70.5	39.4	46.3	41.4	40.0	15.1	32.4	28.7	30.0	13.4	8.6	9.3
MEAN (2011 = 76 Entries)		**0.8**	**1.2**	**1.1**	**2.1**	**2.6**	**3.2**	**19.1**	**53.8**	**62.5**	**68.5**	**24.8**	**40.5**	**40.1**	**39.4**	**6.3**	**26.7**	**28.3**	**29.5**	**11.7**	**9.6**	**9.3**
LSD (0.05)		**0.5**	**2.6**	**1.8**	**0.5**	**1.1**	**1.9**	**14.2**	**10.6**	**10.3**	**9.3**	**8.4**	**14.2**	**9.7**	**8.7**	**3.9**	**11.1**	**8.0**	**8.2**	**3.2**	**3.7**	**3.0**
CV (%)		**38.1**	**102.5**	**97.0**	**18.9**	**25.7**	**29.1**	**35.8**	**9.7**	**10.1**	**9.6**	**43.8**	**17.4**	**14.8**	**15.6**	**51.2**	**20.6**	**17.2**	**19.8**	**23.9**	**18.7**	**19.8**

2011 Michigan State University Wheat Performance Trials (Including Experimentals)

Multi-year data are the most informative.
MSU makes no endorsement of any variety or brand.

Table 4 : Multi-Year Performance Summary (Note: Tables sorted by 2011 Yield, red wheats grouped before white)

		Milling and Baking Properties (2010 Crop and Earlier)																
		Percent Flour Yield			Percent Protein In Flour			Whole	Whole	Softness Equivalent Percent			Top Grade (0-9)			Cookie Diameter (cm)		
			Multi-Year Averages			Multi-Year Averages		Grain	Grain		Multi-Year Averages			Multi-Year Averages			Multi-Year Averages	
	Grain		2 YR	3 YR		2 YR	3 YR				2 YR	3 YR		2 YR	3 YR		2 YR	3 YR
Name	Color	2010	2009-10	2008-10	2010	2009-10	2008-10	Protein % 2010	Hardness 2010	2010	2009-10	2008-10	2010	2009-10	2008-10	2010	2009-10	2008-10
Sienna	Red	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
Pioneer Brand 25R30	Red	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
W1104	Red	68.5	-----	-----	6.9	-----	-----	8.5	28.0	57.2	-----	-----	5.0	-----	-----	19.6	-----	-----
Pioneer Brand 25R34	Red	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
Dyna-Gro Shirley	Red	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
Red Devil	Red	69.2	-----	-----	6.7	-----	-----	8.3	20.4	60.5	-----	-----	5.0	-----	-----	19.1	-----	-----
MCIA196	Red	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
Dyna-Gro 9922	Red	69.3	-----	-----	6.8	-----	-----	8.9	21.8	59.7	-----	-----	5.0	-----	-----	19.4	-----	-----
DF105R	Red	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
W123	Red	71.5	-----	-----	6.0	-----	-----	7.9	21.3	65.4	-----	-----	5.0	-----	-----	19.2	-----	-----
Branson	Red	70.1	70.6	70.6	6.9	7.0	7.2	8.6	19.2	62.8	61.9	61.1	5.0	5.0	5.0	19.3	19.1	18.9
RS967	Red	68.5	-----	-----	6.3	-----	-----	8.1	22.2	64.5	-----	-----	5.0	-----	-----	19.4	-----	-----
Dyna-Gro 9042	Red	69.0	-----	-----	6.5	-----	-----	8.0	24.4	61.7	-----	-----	5.0	-----	-----	18.9	-----	-----
Steyer Ashlyn	Red	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
Sunburst	Red	65.1	65.3	65.3	6.6	6.8	7.0	8.3	29.1	55.8	52.4	50.4	4.0	4.5	4.0	18.3	18.0	17.6
DF107R	Red	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
RS935	Red	71.6	-----	-----	6.6	-----	-----	8.2	19.9	60.3	-----	-----	6.0	-----	-----	19.9	-----	-----
Steyer Marion	Red	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
Red Dragon	Red	71.2	-----	-----	6.4	-----	-----	8.3	13.1	63.3	-----	-----	5.0	-----	-----	19.0	-----	-----
MCIA Butch	Red	67.5	67.6	68.1	6.8	6.9	7.0	8.8	22.8	60.0	57.6	57.8	5.0	4.5	4.7	18.9	18.6	18.6
Pioneer Brand 25R39	Red	69.2	69.4	-----	6.1	6.3	-----	8.1	14.2	59.6	58.6	-----	4.0	4.0	-----	18.8	18.5	-----
DF108R	Red	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
Hyland Emmit	Red	71.7	72.0	72.0	6.6	6.7	6.6	8.7	21.0	58.1	57.0	57.1	5.0	5.5	5.3	19.5	19.5	19.2
W124	Red	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
Merl	Red	70.5	70.7	-----	7.0	7.0	-----	8.7	28.2	58.5	58.4	-----	5.0	5.0	-----	19.1	19.2	-----
Malabar	Red	69.9	70.0	70.1	6.6	6.6	6.6	8.6	14.9	60.2	59.0	58.2	4.0	4.5	4.7	19.1	19.2	19.0
DW EXP102	Red	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
Red Ruby	Red	70.0	70.1	70.2	6.7	6.7	6.7	8.5	17.4	62.5	62.0	61.1	6.0	6.0	5.7	19.7	19.4	19.3
Pioneer Brand 25R47	Red	71.4	71.5	71.6	6.1	6.4	6.5	8.1	14.1	63.8	63.9	62.2	6.0	5.0	5.0	19.7	19.3	19.4
RS978	Red	70.8	71.0	71.1	6.4	6.6	6.7	8.3	9.7	63.6	62.1	60.9	6.0	6.0	5.7	19.0	19.3	19.3
Hyland HY116-SRW	Red	67.7	68.1	-----	6.8	6.8	-----	8.9	24.3	56.8	53.9	-----	6.0	5.5	-----	19.5	19.2	-----
Hopewell	Red	68.2	68.4	68.7	6.8	6.8	7.0	9.1	21.6	63.2	62.1	60.7	5.0	5.0	5.0	19.3	19.1	19.0
GB203	Red	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
Dyna-Gro 9053	Red	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
Steyer Jordan	Red	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
Steyer Crestline	Red	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
VA05W-251	Red	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
W1566	Red	70.6	70.8	-----	7.0	7.1	-----	8.6	25.3	62.3	61.4	-----	3.0	2.5	-----	18.5	18.3	-----
RS934	Red	67.6	-----	-----	6.6	-----	-----	8.6	14.2	52.3	-----	-----	4.0	-----	-----	18.4	-----	-----
R055	Red	70.9	71.3	71.5	6.7	6.9	7.1	8.8	16.1	60.2	58.9	57.3	5.0	5.0	5.0	19.7	19.4	19.2
Pioneer Brand 25R32	Red	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
R045	Red	71.2	71.4	71.4	6.7	6.6	6.7	8.5	23.7	63.7	62.7	61.3	5.0	5.0	4.7	19.8	19.5	19.4
R075	Red	71.5	71.5	71.6	6.3	6.2	6.4	8.6	23.5	64.0	63.0	61.6	5.0	5.5	5.0	18.8	19.0	19.2
AG1189	Red	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
Quest	Red	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
Hyland TW271-099	Red	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
INW1021	Red	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
VA05W-139	Red	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
Excel 168	Red	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----

2011 Michigan State University Wheat Performance Trials (Including Experimentals)

Multi-year data are the most informative.
MSU makes no endorsement of any variety or brand.

Table 4 : Multi-Year Performance Summary (Note: Tables sorted by 2011 Yield, red wheats grouped before white)

		Milling and Baking Properties (2010 Crop and Earlier)																
		Percent Flour Yield			Percent Protein In Flour			Whole	Whole	Softness Equivalent Percent			Top Grade (0-9)			Cookie Diameter (cm)		
			Multi-Year Averages			Multi-Year Averages		Grain	Grain		Multi-Year Averages			Multi-Year Averages			Multi-Year Averages	
	Grain		2 YR	3 YR		2 YR	3 YR				2 YR	3 YR		2 YR	3 YR		2 YR	3 YR
Name	Color	2010	2009-10	2008-10	2010	2009-10	2008-10	Protein % 2010	Hardness 2010	2010	2009-10	2008-10	2010	2009-10	2008-10	2010	2009-10	2008-10
Jupiter	White	71.9	71.6	71.4	5.8	5.8	5.9	7.5	15.8	62.9	63.3	59.4	5.0	5.0	5.3	19.4	19.4	19.4
Envoy	White	70.1	70.5	70.7	6.9	7.1	7.4	8.7	16.2	56.1	55.2	52.5	3.0	4.0	4.0	19.0	19.4	19.1
W1062	White	72.4	72.4	72.4	6.2	6.3	6.4	7.9	21.4	64.9	65.0	62.2	5.0	4.5	4.7	20.4	20.4	20.1
Linebacker	White	70.5	70.4	-----	6.8	6.6	-----	8.4	20.4	60.1	61.6	-----	4.0	4.0	-----	19.3	19.7	-----
Ambassador	White	71.5	72.1	72.0	6.2	6.4	6.7	8.1	7.4	62.9	60.8	59.0	5.0	4.5	4.3	19.7	19.5	19.3
AC Mountain	White	71.1	71.3	71.1	6.4	6.3	6.4	8.2	10.1	62.0	62.3	60.3	5.0	5.0	5.3	19.5	19.8	19.7
Coral	White	71.8	71.3	71.3	6.7	6.4	6.6	8.2	17.2	61.4	62.4	60.0	6.0	5.5	5.7	19.4	19.4	19.2
Pioneer Brand 25W43	White	70.2	69.9	70.1	7.1	7.0	7.1	8.8	14.7	58.6	59.0	57.7	5.0	5.5	5.0	19.0	19.4	19.1
Hyland TW319-SWW	White	69.8	-----	-----	6.9	-----	-----	8.8	22.9	59.3	-----	-----	6.0	-----	-----	19.2	-----	-----
Dyna-Gro 9242W	White	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
Hyland Ava	White	70.1	70.2	70.1	6.4	6.3	6.4	8.4	13.9	62.6	62.7	61.2	5.0	5.5	5.7	19.7	19.7	19.5
MSU Line E8052	White	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
MSU Line E5024	White	69.9	70.1	69.8	6.5	6.7	7.0	8.1	20.9	57.7	55.7	52.8	5.0	5.5	5.3	19.3	19.0	18.8
MSU Line E6012	White	71.7	71.6	-----	6.7	6.5	-----	8.5	20.9	63.2	61.9	-----	4.0	4.5	-----	18.8	19.2	-----
Caledonia	White	72.0	71.5	71.3	6.5	6.6	6.8	8.5	19.1	61.7	61.4	58.7	5.0	4.5	4.7	19.6	19.2	19.2
Aubrey	White	71.8	71.6	71.4	6.8	7.2	7.2	8.7	11.9	63.9	62.5	61.0	4.0	4.5	4.3	18.9	18.8	18.8
Abbey	White	70.1	-----	-----	7.3	-----	-----	9.4	24.3	57.0	-----	-----	6.0	-----	-----	19.4	-----	-----
MSU Line E6032	White	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
Crystal	White	71.9	71.4	71.4	6.4	6.5	6.7	8.4	11.4	61.8	59.8	57.7	6.0	5.5	5.0	19.6	19.8	19.5
MSU D8006	White	73.4	73.0	73.0	6.6	6.9	6.9	8.5	12.3	63.4	62.4	61.1	4.0	4.5	4.7	19.7	19.8	19.6
MSU D6234	White	69.8	69.4	69.5	6.9	6.9	7.0	8.5	20.0	58.9	59.1	56.7	5.0	5.0	4.7	19.4	19.7	19.5
MEAN (2011 = 76 Entries)		**70.3**	**70.6**	**70.7**	**6.6**	**6.6**	**6.8**	**8.5**	**18.9**	**60.9**	**60.3**	**58.9**	**4.9**	**4.9**	**4.9**	**19.3**	**19.3**	**19.2**
LSD (0.05)		-----	**0.9**	**0.7**	-----	**0.5**	**0.4**	-----	-----	-----	**3.1**	**3.1**	-----	**1.3**	**1.1**	-----	**0.8**	**0.6**
CV (%)		-----	**0.6**	**0.6**	-----	**3.6**	**3.4**	-----	-----	-----	**2.5**	**3.2**	-----	**13.3**	**13.5**	-----	**2.0**	**1.8**

2011 Michigan State University Wheat Performance Trials (Including Experimentals)

Table 5 : Multi-Year Performance Summary (Note: Tables sorted by 2011 Yield, red wheats grouped before white)

Multi-year data are the most informative.
MSU makes no endorsement of any variety or brand.

		Milling and Baking Properties (2010 Crop and Earlier)														
		Water SRC (%)			Sodium Carbonate SRC (%)			Sucrose SRC (%)			Lactic Acid Retention			Quality Lab Test Weight		
			Multi-Year Averages			Multi-Year Averages			Multi-Year Averages			Multi-Year Averages			Multi-Year Averages	
Name	Grain Color	2010	2 YR 2009-10	3 YR 2008-10	2010	2 YR 2009-10	3 YR 2008-10	2010	2 YR 2009-10	3 YR 2008-10	2010	2 YR 2009-10	3 YR 2008-10	2010	2 YR 2009-10	3 YR 2008-10
Sienna	Red	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
Pioneer Brand 25R30	Red	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
W1104	Red	53.2	-----	-----	64.8	-----	-----	81.5	-----	-----	65.7	-----	-----	61.0	-----	-----
Pioneer Brand 25R34	Red	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
Dyna-Gro Shirley	Red	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
Red Devil	Red	55.5	-----	-----	67.0	-----	-----	84.8	-----	-----	83.1	-----	-----	63.2	-----	-----
MCIA196	Red	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
Dyna-Gro 9922	Red	55.0	-----	-----	67.9	-----	-----	84.9	-----	-----	84.5	-----	-----	63.3	-----	-----
DF105R	Red	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
W123	Red	55.1	-----	-----	65.5	-----	-----	77.9	-----	-----	97.3	-----	-----	61.4	-----	-----
Branson	Red	53.1	53.0	53.0	65.7	65.2	66.9	85.3	83.7	87.7	92.2	93.6	99.5	61.1	62.1	62.5
RS967	Red	56.0	-----	-----	69.3	-----	-----	82.9	-----	-----	96.8	-----	-----	62.5	-----	-----
Dyna-Gro 9042	Red	55.6	-----	-----	72.2	-----	-----	87.6	-----	-----	102.3	-----	-----	62.4	-----	-----
Steyer Ashlyn	Red	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
Sunburst	Red	59.1	59.3	60.3	73.9	74.8	76.9	90.3	91.7	95.5	83.6	86.7	94.5	64.3	64.8	65.4
DF107R	Red	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
RS935	Red	51.0	-----	-----	64.4	-----	-----	76.9	-----	-----	72.0	-----	-----	60.4	-----	-----
Steyer Marion	Red	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
Red Dragon	Red	52.8	-----	-----	66.5	-----	-----	82.9	-----	-----	83.8	-----	-----	61.4	-----	-----
MCIA Butch	Red	53.2	53.1	53.5	66.8	67.9	69.6	83.6	83.7	84.9	91.8	95.9	99.5	60.5	61.4	61.6
Pioneer Brand 25R39	Red	56.1	55.8	-----	68.7	69.3	-----	81.6	83.8	-----	75.5	81.8	-----	62.0	62.6	-----
DF108R	Red	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
Hyland Emmit	Red	54.5	53.3	53.5	64.7	65.4	67.0	80.1	79.6	82.3	65.9	72.3	79.6	61.8	62.1	62.7
W124	Red	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
Merl	Red	54.8	54.3	-----	69.5	69.5	-----	81.0	82.6	-----	85.1	89.3	-----	64.1	64.1	-----
Malabar	Red	54.1	54.0	54.5	66.7	67.1	68.6	83.8	84.0	85.0	90.1	96.8	101.2	61.9	62.3	62.7
DW EXP102	Red	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
Red Ruby	Red	54.2	54.2	53.9	66.4	67.0	68.1	82.5	83.2	84.6	90.5	96.7	102.0	62.4	62.6	63.1
Pioneer Brand 25R47	Red	52.8	52.0	52.2	63.8	64.5	65.5	75.9	77.5	79.9	81.1	87.3	93.8	61.0	60.8	61.7
RS978	Red	54.0	52.5	52.6	66.7	66.3	67.7	79.7	80.0	82.5	85.3	84.6	93.5	61.0	61.5	62.1
Hyland HY116-SRW	Red	55.3	54.6	-----	67.3	67.7	-----	82.1	82.8	-----	73.0	78.8	-----	61.4	62.3	-----
Hopewell	Red	53.6	53.7	53.6	67.8	67.9	69.2	83.6	83.5	84.7	96.6	100.0	104.8	61.8	62.1	62.7
GB203	Red	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
Dyna-Gro 9053	Red	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
Steyer Jordan	Red	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
Steyer Crestline	Red	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
VA05W-251	Red	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
W1566	Red	54.0	53.8	-----	71.6	70.0	-----	86.7	86.2	-----	83.4	83.5	-----	61.8	61.9	-----
RS934	Red	58.0	-----	-----	67.9	-----	-----	88.6	-----	-----	98.2	-----	-----	62.9	-----	-----
R055	Red	52.7	52.5	52.8	63.1	63.7	64.9	82.5	81.9	83.8	85.3	88.5	97.0	61.2	61.9	62.8
Pioneer Brand 25R32	Red	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
R045	Red	56.0	56.5	56.4	68.9	70.4	72.1	81.0	82.2	85.6	71.8	79.3	84.3	63.4	63.4	64.1
R075	Red	56.0	56.5	56.9	68.7	69.5	71.2	81.3	81.9	83.7	70.5	80.0	84.4	63.1	63.2	64.0
AG1189	Red	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
Quest	Red	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
Hyland TW271-099	Red	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
INW1021	Red	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
VA05W-139	Red	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
Excel 168	Red	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----

2011 Michigan State University Wheat Performance Trials (Including Experimentals)

Multi-year data are the most informative.
MSU makes no endorsement of any variety or brand.

Table 5 : Multi-Year Performance Summary (Note: Tables sorted by 2011 Yield, red wheats grouped before white)

		Milling and Baking Properties (2010 Crop and Earlier)														
		Water SRC (%)			Sodium Carbonate SRC (%)			Sucrose SRC (%)			Lactic Acid Retention			Quality Lab Test Weight		
			Multi-Year Averages			Multi-Year Averages			Multi-Year Averages			Multi-Year Averages			Multi-Year Averages	
Name	Grain Color	2010	2 YR 2009-10	3 YR 2008-10	2010	2 YR 2009-10	3 YR 2008-10	2010	2 YR 2009-10	3 YR 2008-10	2010	2 YR 2009-10	3 YR 2008-10	2010	2 YR 2009-10	3 YR 2008-10
Jupiter	White	54.7	55.5	55.9	65.9	67.3	69.2	79.0	79.7	81.2	78.5	92.6	98.3	61.1	61.1	62.4
Envoy	White	53.0	52.5	54.0	64.6	65.1	67.9	83.3	82.6	85.1	86.7	89.9	95.8	61.3	62.1	63.2
W1062	White	50.9	51.0	51.0	61.9	62.2	64.0	77.6	77.3	79.8	85.2	95.1	101.6	61.9	61.6	62.8
Linebacker	White	51.0	51.4	-----	62.5	63.5	-----	78.3	78.0	-----	72.8	83.8	-----	60.8	60.0	-----
Ambassador	White	51.5	50.9	51.3	64.1	64.2	65.5	78.4	78.2	79.8	72.6	79.2	84.4	60.1	60.4	60.9
AC Mountain	White	51.7	51.8	51.8	62.4	62.8	64.4	77.0	77.5	79.7	70.3	78.9	84.1	60.7	60.4	60.9
Coral	White	52.5	51.2	51.5	62.4	62.9	64.6	77.5	76.7	78.3	79.8	88.0	94.0	62.2	61.7	62.6
Pioneer Brand 25W43	White	52.5	52.1	52.5	63.6	64.8	66.2	81.1	81.7	83.6	98.4	97.9	103.3	61.9	61.9	62.5
Hyland TW319-SWW	White	55.1	-----	-----	68.0	-----	-----	81.9	-----	-----	79.3	-----	-----	63.0	-----	-----
Dyna-Gro 9242W	White	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
Hyland Ava	White	52.6	51.7	51.8	63.8	63.6	65.3	79.4	78.8	82.0	64.9	74.8	81.0	61.3	61.4	62.3
MSU Line E8052	White	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
MSU Line E5024	White	55.6	54.9	55.6	66.4	67.6	69.8	83.9	83.5	85.8	77.0	80.6	85.1	62.0	62.4	63.2
MSU Line E6012	White	52.8	52.9	-----	64.5	66.0	-----	81.6	81.3	-----	89.6	91.5	-----	62.2	62.6	-----
Caledonia	White	52.4	52.1	52.1	63.2	64.0	65.3	76.9	76.9	79.6	79.2	87.7	93.6	61.5	61.2	62.3
Aubrey	White	52.7	51.6	52.1	66.9	66.5	67.4	84.4	82.6	84.0	91.0	93.2	93.6	62.3	62.9	63.1
Abbey	White	53.1	-----	-----	63.9	-----	-----	81.7	-----	-----	79.9	-----	-----	62.8	-----	-----
MSU Line E6032	White	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
Crystal	White	53.7	52.4	53.1	64.5	64.8	66.8	77.5	77.5	79.4	80.0	85.7	90.5	60.7	61.1	61.8
MSU D8006	White	52.7	52.1	52.2	64.6	64.7	65.8	79.2	80.0	81.0	92.9	98.6	103.1	61.6	61.9	62.4
MSU D6234	White	55.5	55.2	54.8	67.1	67.2	68.3	79.2	78.6	80.0	68.3	74.5	79.1	62.3	62.2	63.0
MEAN (2011 = 76 Entries)		**53.9**	**53.4**	**53.6**	**66.2**	**66.4**	**67.6**	**81.6**	**81.2**	**83.1**	**82.6**	**87.1**	**93.1**	**61.9**	**62.0**	**62.7**
LSD (0.05)		**-----**	**1.6**	**1.5**	**-----**	**1.9**	**1.5**	**-----**	**2.6**	**2.7**	**-----**	**9.9**	**7.3**	**-----**	**1.2**	**1.0**
CV (%)		**-----**	**1.5**	**1.7**	**-----**	**1.4**	**1.4**	**-----**	**1.6**	**2.0**	**-----**	**5.6**	**4.8**	**-----**	**1.0**	**1.0**

2011 Michigan State University Wheat Performance Trials (Including Experimentals)

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.

			ALLEGAN			HURON			INGHAM			LENAWEE			TUSCOLA			SANILAC			
Name	Grain Color	Commercially Available	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.	Organization
Envoy	White	Yes	87.8	60.4	12.3	92.9	60.6	12.5	74.4	59.7	14.2	84.9	60.6	13.9	108.9	61.1	12.6	84.5	59.2	14.7	Cooperative Elevator Co.
DF105R	Red	Yes	90.8	58.9	12.0	98.3	58.6	12.0	79.6	58.5	12.3	93.3	61.0	12.6	109.6	60.3	11.9	90.9	57.7	13.4	D.F. Seeds, Inc.
DF107R	Red	Yes	86.4	59.5	12.6	104.9	60.3	12.9	76.7	59.0	13.1	90.2	60.7	13.0	107.1	60.7	12.4	87.5	59.0	14.6	D.F. Seeds, Inc.
DF108R	Red	Yes	88.5	60.4	12.8	102.7	61.8	12.8	76.1	60.4	12.8	81.6	61.8	12.8	105.7	61.9	12.4	91.3	59.6	15.2	D.F. Seeds, Inc.
Linebacker	White	Yes	82.0	58.9	12.8	88.9	59.0	13.9	81.0	58.2	16.5	87.8	56.8	19.7	101.4	59.5	16.3	86.7	58.0	15.1	D.F. Seeds, Inc.
R045	Red	Yes	80.5	60.0	12.5	97.4	59.4	14.8	67.6	59.5	14.2	85.9	61.8	13.8	103.0	62.1	12.7	82.9	60.3	14.8	D.F. Seeds, Inc.
R055	Red	Yes	84.1	59.5	13.1	92.5	59.4	13.7	68.2	59.2	13.8	84.2	60.5	13.6	101.2	61.0	12.6	89.8	58.8	15.7	D.F. Seeds, Inc.
R075	Red	Yes	80.0	59.1	12.7	99.0	60.1	14.1	60.7	58.8	14.5	85.6	61.5	13.7	105.8	61.4	12.7	86.0	59.9	14.9	D.F. Seeds, Inc.
Ambassador	White	Yes	90.2	58.5	12.1	82.8	58.5	12.1	77.7	57.8	12.3	88.9	59.3	13.1	98.7	59.4	11.8	85.6	58.0	14.3	D.F. Seeds, Inc. / Cooperative Elevator Co.
Aubrey	White	Yes	81.5	60.9	13.1	92.1	62.3	12.7	77.1	61.4	13.9	78.2	61.3	13.5	99.2	63.4	12.7	81.0	60.0	15.7	D.F. Seeds, Inc. / Cooperative Elevator Co.
DW EXP102	Red	No	82.7	59.6	12.2	101.2	60.7	12.4	76.8	59.9	12.8	91.0	62.4	13.0	104.2	62.3	12.2	85.1	59.2	15.0	Direct Enterprises
Quest	Red	No	76.5	57.5	12.5	94.2	59.8	11.9	75.9	58.5	12.7	76.8	59.2	12.8	102.1	60.2	12.0	87.5	57.4	15.6	Direct Enterprises
Sienna	Red	No	89.0	59.0	12.5	105.7	59.7	12.5	81.0	59.1	13.5	97.5	60.4	12.8	115.4	60.4	12.5	93.2	58.0	15.3	Direct Enterprises
Dyna-Gro 9042	Red	Yes	88.0	59.0	12.8	101.3	59.8	12.5	73.7	59.1	12.9	90.8	61.0	12.8	110.9	60.9	12.1	88.3	59.1	14.8	Dyna-Gro Seed
Dyna-Gro 9053	Red	Yes	87.0	56.4	12.4	92.5	57.8	12.3	72.9	57.5	12.6	85.6	58.8	13.1	105.3	58.8	11.9	86.7	56.8	14.6	Dyna-Gro Seed
Dyna-Gro 9242W	White	Yes	84.1	59.6	12.7	94.2	60.3	12.7	67.2	59.6	13.5	86.8	61.6	13.3	101.8	61.1	12.3	81.4	59.0	15.0	Dyna-Gro Seed
Dyna-Gro 9922	Red	Yes	95.8	60.5	12.6	105.8	60.3	14.7	73.8	58.7	15.2	84.5	61.1	13.8	113.4	61.4	12.6	89.6	58.7	15.7	Dyna-Gro Seed
Dyna-Gro Shirley	Red	Yes	88.1	58.6	12.5	101.6	57.9	17.5	79.6	56.8	17.0	92.0	58.2	15.9	113.1	60.0	13.0	89.7	58.1	14.9	Dyna-Gro Seed
Excel 168	Red	Yes	73.2	61.4	12.6	87.2	62.8	12.4	73.8	62.6	13.3	77.4	63.3	13.0	91.6	64.3	12.5	74.7	61.7	14.1	Excel Brand Seed
Abbey	White	Yes	72.2	59.0	12.8	91.7	58.9	17.5	68.4	56.8	18.6	80.9	55.9	22.9	97.8	59.1	17.7	87.0	59.7	16.5	Harrington Seeds, Inc.
Caledonia	White	Yes	81.5	58.8	12.3	90.7	58.6	13.4	68.2	58.0	13.8	83.9	58.4	15.1	99.9	60.4	13.2	84.9	58.5	14.9	Harrington Seeds, Inc.
Hyland Ava	White	Yes	80.8	59.4	12.8	92.0	59.6	13.6	62.4	56.5	17.9	81.3	54.5	23.0	105.8	60.6	14.4	91.6	58.7	16.0	Hyland Seeds
Hyland Emmit	Red	Yes	81.5	58.6	13.2	94.8	59.3	13.2	79.5	58.8	16.9	93.5	59.2	15.0	100.6	60.0	13.7	94.7	59.2	16.6	Hyland Seeds
Hyland HY116-SRW	Red	Yes	78.6	59.0	12.1	100.4	59.7	12.7	75.2	58.5	14.0	87.3	60.0	13.1	104.1	60.6	12.4	89.3	57.9	15.9	Hyland Seeds
Hyland TW271-099	Red	Yes	89.5	61.5	12.8	92.8	61.1	13.1	71.7	59.9	13.8	82.6	61.8	13.3	92.4	61.8	12.4	79.6	59.1	14.9	Hyland Seeds
Hyland TW319-SWW	White	No	76.3	59.0	12.5	96.2	60.2	13.4	67.8	59.0	14.1	89.5	61.9	13.6	101.0	62.0	12.4	87.5	59.8	14.2	Hyland Seeds
AC Mountain	White	Yes	77.1	57.5	12.2	91.2	59.1	11.9	77.1	58.8	12.7	86.0	59.1	14.4	103.5	59.8	12.4	87.5	57.6	14.0	Michigan Crop Improvement Assn.
AG1189	Red	Yes	86.1	60.1	13.3	97.5	60.5	14.4	65.3	58.5	17.6	84.0	61.4	14.4	98.2	60.9	13.2	82.4	58.6	17.4	Michigan Crop Improvement Assn.
Coral	White	Yes	78.1	58.6	12.7	90.0	59.1	13.0	78.9	58.7	16.3	88.0	58.5	17.6	101.8	60.5	13.9	82.9	58.4	15.5	Michigan Crop Improvement Assn.
Crystal	White	Yes	76.1	58.8	12.0	85.1	59.5	11.5	70.6	59.8	11.4	82.8	60.5	12.5	96.6	61.1	11.9	82.4	58.4	14.4	Michigan Crop Improvement Assn.
Hopewell	Red	Yes	88.7	60.0	12.7	97.9	60.9	13.1	83.0	60.0	14.4	81.9	61.5	13.6	98.7	61.5	12.7	83.5	59.6	14.9	Michigan Crop Improvement Assn.
INW1021	Red	Yes	77.3	57.6	12.4	92.9	59.7	13.4	68.0	58.5	14.3	82.7	58.8	13.8	101.7	59.5	12.4	86.1	57.1	15.5	Michigan Crop Improvement Assn.
Jupiter	White	Yes	83.1	58.0	12.4	88.2	58.1	12.5	78.7	58.5	14.2	88.6	59.7	13.8	103.9	60.4	13.1	93.0	58.5	14.3	Michigan Crop Improvement Assn.
MCIA Butch	Red	Yes	90.4	56.7	12.1	92.9	58.5	12.0	78.0	57.6	13.1	86.3	59.9	13.1	108.6	59.7	12.1	89.9	57.8	14.8	Michigan Crop Improvement Assn.
MCIA196	Red	No	87.5	58.7	12.5	106.8	59.5	12.6	72.4	58.6	13.7	92.3	60.2	13.4	115.0	60.8	12.5	89.3	58.3	15.5	Michigan Crop Improvement Assn.
MSU D6234	White	Yes	72.7	60.0	12.4	84.9	60.3	13.1	75.3	59.1	16.1	78.4	59.7	16.4	96.8	61.3	13.5	83.7	59.6	14.8	Michigan Crop Improvement Assn.
MSU D8006	White	Yes	81.5	58.8	12.1	85.8	58.8	12.1	69.9	59.0	13.6	82.6	59.2	13.1	96.6	60.2	11.9	76.9	58.2	15.2	Michigan Crop Improvement Assn.
MSU Line E5024	White	No	83.9	60.8	12.4	91.7	59.0	13.6	67.1	59.7	14.7	88.3	61.2	14.4	96.8	60.9	12.7	85.3	59.4	14.8	Michigan Crop Improvement Assn.
Red Devil	Red	Yes	91.2	60.4	12.6	109.8	60.6	14.5	73.5	59.7	14.8	88.2	61.1	13.6	111.1	61.5	12.6	90.0	59.4	15.5	Michigan Crop Improvement Assn.
Red Dragon	Red	Yes	87.5	58.7	12.6	97.1	59.7	12.9	75.4	59.2	12.9	85.1	60.1	13.4	109.1	60.7	12.4	93.0	58.6	15.4	Michigan Crop Improvement Assn.

2011 Michigan State University Wheat Performance Trials (Including Experimentals)

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	Commercially Available	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.	
Red Ruby	Red	Yes	88.9	61.1	12.6	92.1	61.1	12.9	78.9	60.0	13.4	87.3	60.6	13.2	103.5	61.7	12.3	88.4	59.4	14.9	Michigan Crop Improvement Assn.
MSU Line E6012	White	No	82.1	59.3	12.6	92.1	60.6	12.1	72.3	59.8	12.9	77.4	61.3	13.2	99.9	61.2	12.3	87.9	58.8	14.7	Michigan State University
MSU Line E6032	White	No	74.7	59.7	12.4	90.8	59.1	13.4	60.0	58.0	16.1	79.6	59.8	15.5	102.6	61.3	13.1	86.4	58.5	14.6	Michigan State University
MSU Line E8052	White	No	80.7	58.3	12.4	95.3	59.5	13.1	68.5	58.5	13.9	80.9	58.8	13.4	104.1	59.9	12.3	84.0	57.8	15.8	Michigan State University
Malabar	Red	Yes	83.0	59.8	13.0	98.8	60.8	12.5	82.0	60.4	12.8	83.7	61.4	13.7	108.2	61.7	12.5	87.9	59.2	16.1	Ohio Seed Improvement Assn.
Pioneer Brand 25R30	Red	Yes	99.7	60.2	13.1	104.3	61.3	13.6	75.0	60.3	14.7	89.9	61.1	14.5	112.6	61.8	13.2	96.4	59.7	15.0	Pioneer Hi-Bred International
Pioneer Brand 25R32	Red	Yes	81.2	60.1	12.8	96.6	61.3	12.9	69.8	60.5	12.8	82.3	62.3	12.7	103.7	62.1	12.4	84.6	58.8	15.8	Pioneer Hi-Bred International
Pioneer Brand 25R34	Red	Yes	89.6	59.1	12.9	103.9	59.2	13.8	77.2	58.7	14.9	94.7	59.8	13.9	111.0	60.2	12.9	88.0	57.7	15.4	Pioneer Hi-Bred International
Pioneer Brand 25R39	Red	Yes	90.1	60.8	13.1	99.5	60.4	13.5	73.6	58.3	15.4	90.2	61.2	13.9	104.0	61.6	12.9	88.6	59.1	15.1	Pioneer Hi-Bred International
Pioneer Brand 25R47	Red	Yes	89.0	58.8	12.9	92.5	58.0	12.7	72.8	58.1	14.0	88.8	57.5	15.0	108.6	58.9	12.4	86.4	57.4	14.7	Pioneer Hi-Bred International
Pioneer Brand 25W43	White	Yes	82.5	58.2	12.5	93.8	59.2	12.4	70.3	57.9	13.7	86.6	60.1	13.0	106.7	61.1	12.2	79.7	57.5	15.8	Pioneer Hi-Bred International
GB203	Red	No	89.0	59.8	12.5	96.7	60.1	13.4	69.9	57.6	17.5	83.2	58.9	15.6	101.6	60.1	12.9	90.7	58.8	14.4	Platnium Genetics, LLC
RS934	Red	Yes	85.1	60.9	12.7	96.3	61.0	13.0	72.6	60.2	13.5	80.2	62.8	13.0	99.1	61.6	12.6	88.0	60.0	15.0	Rupp Seeds, Inc.
RS935	Red	Yes	88.9	59.5	12.6	95.2	58.5	12.1	80.2	57.4	12.4	89.2	60.5	12.9	106.3	59.9	11.9	89.2	57.5	13.7	Rupp Seeds, Inc.
RS967	Red	Yes	91.4	59.9	12.2	102.5	61.8	12.9	75.6	60.5	13.9	85.8	62.5	13.2	109.0	62.1	12.2	89.8	59.7	15.2	Rupp Seeds, Inc.
RS978	Red	Yes	87.7	59.8	12.5	96.7	59.4	12.8	71.3	59.4	12.7	81.8	60.0	12.9	104.5	60.2	11.8	93.1	58.4	15.0	Rupp Seeds, Inc.
Steyer Ashlyn	Red	Yes	89.2	60.6	12.5	101.4	61.6	13.1	79.6	60.9	13.1	83.0	62.0	12.7	104.8	62.3	12.4	95.0	59.7	15.1	Steyer Seeds
Steyer Crestline	Red	Yes	85.2	62.1	12.7	95.4	60.7	13.4	75.3	60.8	13.0	79.3	62.6	12.9	102.7	62.5	12.5	87.5	59.9	14.0	Steyer Seeds
Steyer Jordan	Red	Yes	83.2	61.7	12.9	95.8	60.8	13.5	77.3	60.3	13.0	79.0	62.6	12.9	102.9	62.3	12.5	90.2	60.1	14.8	Steyer Seeds
Steyer Marion	Red	Yes	86.8	59.0	12.7	106.7	59.7	12.8	74.9	58.4	13.2	87.7	60.0	13.5	111.3	61.3	12.3	81.5	58.3	14.4	Steyer Seeds
Branson	Red	Yes	90.7	58.4	12.3	104.9	60.1	12.6	71.1	58.5	12.9	83.8	61.1	12.9	116.2	61.4	12.2	92.3	58.3	15.9	Syngenta Seeds
W1062	White	Yes	85.1	58.1	12.7	94.8	58.6	14.7	77.7	58.6	17.5	85.0	58.2	16.1	103.3	60.8	14.1	82.8	58.8	16.0	Syngenta Seeds
W1104	Red	Yes	84.4	59.1	12.7	102.6	58.7	14.1	83.0	58.9	14.5	95.7	60.6	13.3	107.3	60.9	12.6	91.7	57.8	16.2	Syngenta Seeds
W1566	Red	Yes	85.2	58.4	12.6	82.2	58.0	12.2	82.3	58.1	14.1	97.4	59.9	13.7	100.2	59.2	12.4	77.3	57.6	15.3	Syngenta Seeds
Merl	Red	Yes	89.0	61.6	13.1	101.4	60.5	13.4	70.9	59.5	15.0	88.5	60.8	16.5	109.2	61.9	13.0	85.2	59.7	16.1	Virginia Tech
VA05W-139	Red	No	86.7	61.5	12.5	89.4	59.0	14.1	66.7	59.5	14.3	75.2	59.6	15.3	98.3	61.4	12.6	79.4	58.8	14.6	Virginia Tech
VA05W-251	Red	No	91.9	58.9	12.6	94.7	60.5	11.7	68.9	58.7	12.7	84.3	60.6	12.9	97.7	60.2	11.8	87.2	59.3	14.1	Virginia Tech
Sunburst	Red	Yes	83.4	57.9	12.2	99.4	59.6	12.1	80.9	58.5	12.9	90.0	60.1	12.9	110.1	60.2	12.0	88.9	58.5	14.9	Wellman Seeds, Inc.
W123	Red	Yes	85.5	59.0	12.2	100.0	59.1	12.2	79.4	58.2	12.9	91.3	60.7	12.6	113.1	60.6	11.8	92.6	58.2	14.7	Wellman Seeds, Inc.
W124	Red	Yes	85.1	59.7	12.5	102.7	60.9	12.6	77.1	60.2	12.3	83.4	62.2	13.2	109.6	62.6	12.2	87.0	59.8	15.4	Wellman Seeds, Inc.
MEAN (2011 = 76 Entries)			**83.2**	**59.1**	**12.5**	**95.1**	**59.5**	**13.3**	**72.9**	**58.8**	**14.2**	**84.6**	**60.1**	**14.2**	**103.4**	**60.8**	**12.7**	**85.8**	**58.6**	**15.0**	
LSD (0.05)			**5.6**	**0.8**	**0.3**	**3.4**	**0.7**	**0.6**	**6.2**	**0.9**	**1.1**	**3.5**	**0.8**	**0.9**	**3.5**	**0.5**	**0.3**	**4.3**	**0.6**	**0.5**	
CV (%)			**5.8**	**1.2**	**2.1**	**3.1**	**1.0**	**3.9**	**7.3**	**1.4**	**6.4**	**3.6**	**1.1**	**5.3**	**2.9**	**0.7**	**2.2**	**4.3**	**0.9**	**2.8**	