

TABLE 31_07YD: 2007 WSU HARD WINTER WHEAT YIELD SUMMARY

VARIETY NAME	YIELD (bu/ac)									
	ST. ANDREWS	RITZVILLE	LIND	HORSE HEAVEN	REARDAN	LAMONT	ALMIRA	DAYTON	PULLMAN	VARIETY MEAN
Hard Red Winter										
WA007976	47.0	47.9	46.6	53.7	92.4	120.0	110.2	130.5	122.8	85.7
WA008023	37.5	43.6	45.0	55.1	83.8	117.5	113.8	134.6	134.3	85.0
ACS 52025	45.7	35.6	30.3	39.9	90.2	115.2	118.4	153.0	133.9	84.7
BAUERMEISTER	36.9	43.5	48.8	50.5	87.7	109.8	96.8	124.3	136.6	81.7
BOUNDARY	45.0	49.0	44.2	42.7	92.2	97.1	127.4	117.1	118.1	81.4
IDO621	42.3	47.9	44.4	39.2	83.9	112.2	138.4	104.9	112.2	80.6
TX97F4-33-1B	41.6	40.6	44.1	44.3	78.3	99.1	124.6	118.7	128.0	79.9
ACS 52035	27.1	37.5	35.6	43.8	78.2	105.3	118.6	119.3	131.1	77.4
EDDY	36.2	42.7	40.3	38.2	78.5	103.2	116.3	113.3	116.8	76.2
WA008003	39.6	38.8	49.9	44.0	79.8	97.4	98.1	111.2	123.9	75.9
WA008022	45.4	52.2	55.2	43.7	81.6	95.7	83.4	117.6	107.1	75.8
W98-344	37.4	30.7	33.1	37.2	79.2	107.0	120.3	117.2	108.4	74.5
ORN00B553	20.0	33.0	27.4	47.6	77.2	97.3	122.2	110.8	132.6	74.2
WA008024	32.5	43.7	39.8	44.6	81.1	111.8	93.6	115.5	96.1	73.2
BZ9W02-2032	31.9	27.8	22.6	36.0	80.4	109.1	116.6	115.9	117.9	73.1
AGRIPRO PALADIN	33.3	37.6	37.5	33.9	71.0	90.3	112.9	108.0	116.3	71.2
HATTON	40.4	44.2	47.6	37.5	82.2	90.4	99.9	108.8	87.3	70.9
FINLEY	46.0	39.6	48.2	45.0	75.9	87.4	92.1	97.1	104.2	70.6
JUNIPER	41.8	34.0	47.4	38.4	72.0	81.8	99.4	93.6	114.4	69.2
DECLO	23.4	32.3	30.6	33.0	66.2	104.5	92.9	103.2	103.3	65.5
WA007975	43.0	44.0	49.9	42.3	74.7	74.2	81.7	96.7	68.5	63.9
FINEWAY	24.8	29.5	40.1	27.7	68.4	68.2	72.4	89.5	89.8	56.7
Hard White Winter										
MDM	39.1	41.0	51.6	50.4	90.5	111.1	104.9	123.1	127.4	82.1
OR2052046H	41.3	36.5	43.4	47.6	78.7	93.5	115.7	121.5	116.7	77.2
PALOMINO	34.9	35.3	32.9	32.9	74.1	94.0	118.8	99.7	112.3	70.5
WA008019	33.6	31.7	38.8	41.0	69.3	85.4	91.7	84.9	101.4	64.2
UI DARWIN	33.5	31.3	38.7	36.5	73.3	73.0	89.5	80.1	121.2	64.1
WA008025	27.4	29.0	44.1	28.8	60.4	88.5	89.6	92.3	83.8	60.4
Soft White Common										
ELTAN	43.1	51.6	46.7	53.2	87.5	111.6	94.5	127.8	131.6	83.1
STATISTICS										
CV %	17.9	15.6	12.2	9.4	6.1	10.7	12.9	11.0	10.9	12.3
LSD (0.10)	7.8	7.2	6.0	4.6	5.7	12.4	16.0	14.4	14.6	3.5
Average	37.0	39.0	41.5	41.7	78.9	98.3	105.3	111.4	113.7	74.1
Highest	47.0	52.2	55.2	55.1	92.4	120.0	138.4	153.0	136.6	85.7
Lowest	20.0	27.8	22.6	27.7	60.4	68.2	72.4	80.1	68.5	56.7

TABLE 31_07PR: 2007 WSU HARD WINTER WHEAT PROTEIN SUMMARY

VARIETY NAME	PROTEIN (%)									
	ST. ANDREWS	RITZVILLE	LIND	HORSE HEAVEN	REARDAN	LAMONT	ALMIRA	DAYTON	PULLMAN	VARIETY MEAN
Hard Red Winter										
DECLO	12.6	14.6	14.0	14.5	13.9	10.9	14.2	12.5	13.8	13.4
ACS 52035	13.8	13.4	14.1	13.4	14.2	10.6	13.8	12.8	13.8	13.3
AGRIPRO PALADIN	12.6	13.8	13.6	13.7	13.8	11.0	13.9	12.5	13.2	13.1
BZ9W02-2032	13.0	14.2	15.1	13.6	13.6	10.2	13.5	12.2	12.6	13.1
FINEWAY	13.4	14.0	12.9	13.3	13.2	11.2	14.1	12.6	12.6	13.0
JUNIPER	12.0	13.8	13.1	12.8	13.7	11.1	14.3	13.4	13.3	13.0
ORN00B553	13.6	13.7	14.2	12.4	13.5	10.3	13.4	12.1	12.8	12.9
W98-344	11.7	13.7	13.8	13.6	13.6	10.1	13.9	12.3	13.4	12.9
EDDY	12.0	13.1	13.5	12.9	13.3	10.9	13.4	12.1	13.0	12.7
WA007975	12.1	12.4	12.4	12.1	13.4	10.5	14.4	12.6	13.8	12.6
BOUNDARY	12.1	12.3	12.2	12.5	13.1	11.0	13.1	12.4	12.7	12.4
ACS 52025	11.1	13.5	13.7	12.5	13.2	10.1	13.0	11.7	12.4	12.3
FINLEY	11.8	12.8	12.4	11.9	13.2	11.1	13.4	12.4	12.1	12.3
IDO621	12.3	12.1	12.7	12.5	13.2	10.3	12.7	12.2	12.7	12.3
WA008003	11.5	12.2	12.1	11.9	12.6	10.2	14.0	12.1	13.0	12.2
BAUERMEISTER	11.6	12.7	12.0	11.6	12.4	9.8	14.5	11.6	12.5	12.1
WA008023	11.5	12.4	12.4	11.7	13.2	10.5	13.0	12.0	12.5	12.1
HATTON	12.3	12.3	12.7	11.6	12.9	9.5	13.5	11.7	12.0	12.0
WA008022	11.5	11.7	11.7	11.6	12.5	10.4	13.7	11.8	12.7	12.0
WA008024	11.2	12.3	12.4	12.0	12.9	9.6	13.2	11.3	12.8	12.0
TX97F4-33-1B	11.0	12.0	12.6	11.9	12.8	9.6	12.9	11.2	12.4	11.8
WA007976	10.8	11.4	11.9	11.2	12.3	9.5	13.7	11.5	11.9	11.6
Hard White Winter										
PALOMINO	12.2	13.5	13.9	13.6	13.8	11.2	14.7	12.5	13.7	13.2
UI DARWIN	11.5	13.5	12.4	12.9	13.2	11.5	13.9	12.8	12.5	12.7
WA008019	11.0	13.7	12.4	12.0	12.8	11.0	13.5	12.4	12.8	12.4
WA008025	12.0	13.5	11.7	12.6	12.9	9.4	13.5	11.8	12.2	12.2
MDM	11.0	12.1	11.5	11.3	12.3	9.0	13.2	11.0	12.2	11.5
OR2052046H	9.7	11.4	11.5	10.6	12.1	9.7	13.1	10.6	11.8	11.1
Soft White Common										
ELTAN	10.8	11.5	11.5	11.0	12.3	9.4	13.9	11.0	11.6	11.4
STATISTICS										
CV %	7.5	5.4	3.4	3.2	2.4	6.8	3.9	2.9	3.3	4.5
LSD (0.10)	1.0	0.8	0.5	0.5	0.4	0.8	0.6	0.4	0.5	0.2
Average	11.9	12.9	12.8	12.4	13.1	10.3	13.6	12.0	12.7	12.4
Highest	13.8	14.6	15.1	14.5	14.2	11.5	14.7	13.4	13.8	13.4
Lowest	9.7	11.4	11.5	10.6	12.1	9.0	12.7	10.6	11.6	11.1

TABLE 31_07TW: 2007 WSU HARD WINTER WHEAT TEST WEIGHT SUMMARY

VARIETY NAME	TEST WEIGHT (lbs/bu)									
	ST. ANDREWS	RITZVILLE	LIND	HORSE HEAVEN	REARDAN	LAMONT	ALMIRA	DAYTON	PULLMAN	VARIETY MEAN
Hard Red Winter										
HATTON	61.7	63.2	63.4	63.2	63.3	62.7	60.8	63.9	61.9	62.7
FINLEY	61.2	62.6	62.4	62.6	62.6	62.0	60.1	62.4	62.7	62.0
TX97F4-33-1B	61.9	62.6	62.6	63.4	62.6	62.1	59.2	63.8	60.0	62.0
EDDY	60.1	62.1	62.0	61.6	62.3	61.7	60.7	62.6	62.1	61.7
AGRIPRO PALADIN	60.9	62.3	62.2	62.2	62.1	60.7	57.6	63.0	61.6	61.4
JUNIPER	60.7	62.1	62.1	62.2	61.4	61.2	58.5	61.9	62.2	61.4
ORN00B553	60.5	62.5	62.4	62.6	61.6	62.1	56.7	63.1	60.7	61.3
ACS 52035	57.8	61.9	61.5	62.0	61.1	61.9	60.2	62.6	62.0	61.2
ACS 52025	60.8	61.6	61.5	62.2	61.7	61.6	58.2	62.5	60.7	61.2
W98-344	60.6	62.0	62.1	62.1	62.3	62.5	56.7	62.8	59.9	61.2
WA008003	59.9	61.3	61.5	61.4	61.3	61.8	58.1	62.7	61.8	61.1
DECLO	61.6	61.8	62.8	61.3	60.5	61.7	56.6	62.9	60.4	61.1
FINEWAY	60.6	61.1	62.1	62.0	61.5	59.8	57.6	62.2	61.8	61.0
BZ9W02-2032	60.3	61.5	61.8	62.0	61.8	61.1	57.1	62.6	60.4	61.0
WA007976	58.8	61.6	61.1	61.3	61.5	61.3	58.6	62.5	62.0	60.9
IDO621	58.7	61.4	61.6	60.8	60.7	61.0	60.1	61.7	60.9	60.7
BOUNDARY	58.3	61.2	61.4	60.6	60.5	59.8	58.7	61.5	60.7	60.3
WA008022	59.1	61.1	60.8	60.7	60.4	59.7	56.9	61.1	60.1	60.0
WA008024	57.9	60.9	60.9	60.2	60.2	60.1	57.2	61.9	60.4	60.0
BAUERMEISTER	58.5	61.3	61.7	62.1	61.3	61.1	51.8	62.3	59.7	60.0
WA007975	57.9	59.8	60.7	60.5	59.2	58.3	57.9	60.3	60.3	59.4
WA008023	56.9	59.7	59.6	59.7	59.7	58.9	56.4	60.7	59.8	59.0
Hard White Winter										
WA008019	61.1	62.7	62.6	63.4	63.0	62.5	57.7	62.4	63.0	62.0
UI DARWIN	61.2	62.2	62.7	63.2	63.1	61.2	58.1	62.7	63.2	61.9
OR2052046H	61.7	63.4	63.0	63.0	63.1	61.3	56.1	63.3	61.3	61.8
PALOMINO	60.4	61.0	60.9	61.5	62.1	61.1	56.7	62.0	60.3	60.6
WA008025	59.8	61.4	62.7	60.7	60.5	60.2	56.2	62.0	61.1	60.5
MDM	59.1	61.6	62.0	61.8	61.0	60.1	55.5	62.7	60.5	60.5
Soft White Common										
ELTAN	58.6	61.3	62.1	61.3	60.2	60.0	52.4	62.0	60.7	59.8
STATISTICS										
CV %	1.2	0.6	0.5	0.7	0.7	1.0	2.4	0.8	1.2	1.1
LSD (0.10)	0.8	0.5	0.4	0.5	0.5	0.7	1.6	0.6	0.8	0.3
Average	59.9	61.7	61.9	61.8	61.5	61.0	57.5	62.4	61.1	61.0
Highest	61.9	63.4	63.4	63.4	63.3	62.7	60.8	63.9	63.2	62.7
Lowest	56.9	59.7	59.6	59.7	59.2	58.3	51.8	60.3	59.7	59.0

SUMMARY HARD WINTER WHEAT – 2007 WSU VARIETY TESTING DATA

1. Attached are **SUMMARIES** for yield, test weight and percent grain protein from nine (9) Hard Winter Wheat (HRW) nurseries in the 2007 Variety Testing Program. The Connell and Walla Walla locations are not listed in 2007 due to extreme variability in the nurseries that made coefficients of variation in the data sets too high to provide accurate yield and quality estimates. A majority of information from both these locations is listed in the 2006 Variety Testing Data set on the web site (<http://variety.wsu.edu>). Most of the locations listed are within the vicinity of the towns listed. St. Andrews is an area in Douglas County, WA with the plots located approximately 5 miles northwest of Coulee City, WA. Horse Heaven is the region approximately 12 miles south of Prosser, WA on of SR 221. An irrigated Hard Winter Wheat nursery was established at Moses Lake, WA and results from that trial is also listed on the web site. Moses Lake hard winter data is not included with nursery data from dryland locations since many of the entries in the irrigated nursery are targeted only for irrigation and not planted in dryland areas.
2. Obviously, there was a **high interest** in hard red winter wheat production during the 2007 season due to HRW prices being significantly higher than soft white wheat prices at the begging of the 2006 planting season. Unknowingly, soft white winter wheat prices took a huge hike during the 2006-2007 season. Listed are some comparisons for the month of August in 2006 and 2007.
 - a. August 17, 2006 **Portland cash markets** had:
 - i. **Soft white - \$3.97/bu,**
 - ii. Barley - \$110/ton,
 - iii. DNS - \$5.35/bu
 - iv. **HRW - \$5.13/bu**(Source: T. Reidner, CLD Pacific, Lewiston, ID).
 - b. August 14, 2007 **Portland cash markets** had:
 - i. **Soft white - \$6.90/bu,**
 - ii. Barley - \$190/ton,
 - iii. DNS - \$7.44/bu
 - iv. **HRW - \$7.28/bu**(Source: T. Reidner, CLD Pacific, Lewiston, ID).
3. **Stripe rust** was not a significant factor in the 2007 nurseries even though stripe rust could be observed on susceptible varieties.
4. **IMPORTANT TO UNDERSTAND: Yield average rank and average ranks for test weight and protein** comparisons can only fairly be judged within a given location. Each of the data sets attached have varieties sorted high-to-low on the **average of the nine locations** that is only calculated to give a quick **snapshot** of all varieties across all locations.
5. **Average yields** across all locations for the hard winter nurseries were **11.5% lower** than the previous year; however, 2007 was a year where there was a lot of variation with some areas having above average yields to areas with below average yields. Generally, all winter wheat nurseries withstood the cold snap at the end of October 2006 and the 10-day cold-snap in mid-January (11-21 Jan 2007). It still appears that the 3-month dry period (March-May 2007) probably favored varieties/lines that were able to idle along in the spring and then took advantage of the late May/early June precipitation and 2-week cool period in mid-June. This also seemed to favor test weight.
6. **Three new HRW varieties** garnered a lot of interest in 2007: Bauermeister (WSU), Eddy (Westbred, LLC) and AgriPro Paladin (AgriPro). Each of these varieties had stripe rust advantages over existing 'traditional' HRW varieties (Finley, Hatton) as well as production potentials 'outside' the traditional HRW production areas. Other varieties/experimental lines that stood out or are being considered for release were: IDO621 (a UI Boundary replacement), Boundary (UI), WA008023 (WSU advanced line), WA007975 (WSU pre-released line), ORN00B553 (OSU advanced line), and W98-344 (AgriPro advanced

- line). Six hard white winter entries were included in the 2007 trials compared to only one (MDM, WSU variety) entry the year before. Palomino (AgriPro), UI Darwin (U Idaho) and MDM (WSU) are currently the predominant commercially available hard white winter wheat varieties available.
7. Average **Test Weight** value for HRW across all locations was good at 61.0 lb/bu reflecting late May precipitation and June rainfall patterns coupled with cool weather that was extremely favorable to kernel development and fill.
 8. **Percent grain protein** had an average of 12.4% that exceeded the 11.5% protein requirement for the HRW market class. Only the Lamont location had average grain protein levels below the 11.5% minimum. All hard winter wheat nurseries had top dress nitrogen applied, if needed, based on a calculation of 3# -nitrogen per expected bushel of production (based on a 3-yr average). Again, it appears that the 2-week cool period in June allowed for sufficient nitrogen mobilization into developing kernels that enabled most entries to attain minimum grain protein levels.