

'WB3768' Winter Wheat

Phil Bruckner and Jim Berg, Winter Wheat Breeding Program, Montana State University
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WB3768 is a white-chaffed hard white winter wheat developed by the Montana Agricultural Experiment Station and licensed exclusively to WestBred/Monsanto in 2013. WB3768 was derived from a composite of two F₁ crosses with a common white seeded experimental parent, MTW0047 (=Judith/PI262605//S86-740), to 2*MT9982 (Yellowstone sib) and MT9982/MT9989 (=Judith/Arapahoe). WB3768 is a high yielding variety similar to Yellowstone (Table 1). WB3768 is similar to Yellowstone for most agronomic traits with the exception of higher test weight and later heading date and maturity (Table 2). WB3768 is almost 2 inches taller than Yellowstone. Like Yellowstone, WB3768 is resistant to prevalent races of stem rust, but susceptible to stem and leaf rust. WB3768 has acceptable milling and baking quality (Table 3). WB3768 is a low PPO cultivar with favorable Asian noodle color stability and noodle score. Plant Variety Protection pending. To be sold by variety name only as a class of certified seed. Montana State University Research Fees due on seed sold. PVP, Title V has been applied for (Certificate# 201500028).

Table 1. Yield of WB3768 vs. a set of recommended varieties, 2011-2015^{1/}

Variety	Districts							All Locations
	1 Kalispell	2 Bozeman	3 Huntley ^{2/}	4 Moccasin ^{3/}	5 Conrad ^{4/}	5 Havre ^{5/}	6- Sidney & Williston	
location-years	5	5	19	18	14	9	7	77
Yellowstone	119.8*	91.6**	68.8*	56.2**	78.1**	56.4**	60.8	70.2**
Colter	130.2**	89.5*	70.5**	53.3	74.6	55.2*	59.2	69.5*
WB3768	124.9*	88.3*	68.0*	53.5	76.7*	55.7*	57.1	68.8*
CDC Falcon	76.4	71.4	65.4	51.8	70.8	55.3*	57.5	62.4
Decade	50.1	73.7	65.4	52.9	72.9	52.5*	55.1	60.9
Jerry	53.4	72.5	61.1	49.3	67.1	48.6	58.6	58.0
LSD (0.05)	16.8	12.1	4.6	2.5	3.2	4.3	ns	3.4

** = indicates highest value within a column

* = indicates varieties with values equal to highest variety within a column based on Fisher's protected LSD (p=0.05)

1/ = includes 2011-2015 Intrastate and 2013-2015 Off Station tests

2/ includes data from Fort Smith, Hardin area, Hysham, Molt, Rapelje

3/ includes data from Denton, Geraldine, Winifred, Belt

4/ includes data from Choteau, Cut Bank, The Knees, Shelby

5/ includes data from Loma, Turner

Table 2. Agronomic characteristics of WB3768 vs. a set of recommended varieties, 2011-2015^{1/}

Variety	Test weight lb/bu	Winter survival %	Heading date		Plant height in	Lodging %	Protein %	Sawfly cutting %	Stripe rust %	Coleoptile length in
			Julian	Calendar						
location-years	77	6	42		77	13	76	8	8	2
CDC Falcon	59.0	63	163.8	13-Jun	29.9	7	12.7	5	50	2.9
Colter	59.6*	57	166.1	15-Jun	33.4	10	12.9*	14	20**	2.9
Decade	59.1	61	163.0	12-Jun	31.7	12	13.1**	9	70	3.2
Jerry	58.4	67	165.0	13-Jun	35.7	14	12.9*	10	73	3.2
WB3768	59.9**	55	168.0	17-Jun	35.5	17	12.7	16	21*	2.8
Yellowstone	59.3	54	165.5	15-Jun	33.5	10	12.6	9	27*	2.7
LSD (0.05)	0.5	ns	0.5		0.5	ns	0.2	4	11	0.2

1/ = includes 2011-2015 Intrastate and 2013-2015 Off Station tests

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Table 3. Mill and bake characteristics of WB3768 vs. a set of recommended varieties, 2011-2014

Variety	PPO ^{1/}	Kernel hardness	Flour			Mixograph			Baking		
			yield %	protein %	ash %	tolerance (1-6)	mix time min	absorption %	mix time min	absorption %	volume cc
location-years	16	16	16	16	16	16	16	16	16	16	16
Colter	0.271	81.5	67.9	11.2	0.42	5.1**	9.0	63.4*	16.5	74.4*	1035
Decade	0.294	80.1	67.5	11.4	0.42	4.9*	7.7	64.3**	16.6	74.6**	1054*
WB3768	0.106**	80.4	67.6	11.2	0.43	4.4	6.3	62.0	11.7	72.4	1008
Yellowstone	0.202	81.4	68.2	11.1	0.43	4.7*	8.4	63.0	14.4	73.6*	1063**
LSD (0.05)	0.031	ns	ns	ns	ns	0.5	1	1.0	1.6	1.0	25

** = indicates highest value within a column

* = indicates varieties with values equal to highest variety within a column based on Fisher's protected LSD (p=0.05)

^{1/} polyphenol oxidase, low is best for noodles

Phil Bruckner and Jim Berg, Montana State University, Agricultural Experiment Station <<http://plantsciences.montana.edu/crops>>