

# ‘Colter’ Winter Wheat

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Colter is a white-chaffed hard red winter wheat developed by the Montana Agricultural Experiment Station and released to seed growers in 2013. Colter, pedigree = MT9982\*2/BZ9W96-895, was selected as a cross from a Yellowstone sib selection (MT9982) and an unreleased advanced breeding line from Westbred (BZ9W96-895). Colter is a high yielding variety similar to Yellowstone (Table 1). Colter is similar to Yellowstone for most agronomic traits with the exception of higher test weight and later heading date (Table 2). It has superior stem rust resistance relative to Yellowstone. Colter is resistant to prevalent races of stripe rust, but susceptible to leaf rust. Colter has acceptable milling and baking quality (Table 3). Colter is named for John Colter, a member of the 1803-06 Lewis & Clark Expedition, who later explored the Yellowstone caldera, completed his famous “run”, and is considered by some to be the first mountain man. 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 will has been applied for (Certificate# 201500029).

**Table 1. Yield of Colter vs. a set of recommended varieties, 2011-2015<sup>1/</sup>**

Variety	Districts							All Locations
	1 Kalispell	2 Bozeman <sup>2/</sup>	3 Huntley <sup>3/</sup>	4 Moccasin <sup>4/</sup>	5 Conrad <sup>5/</sup>	5 Havre <sup>6/</sup>	6- Sidney & Williston	
location-years	5	7	25	22	17	11	7	94
<b>Yellowstone</b>	<b>105.7*</b>	<b>75.8**</b>	<b>67.0*</b>	<b>54.4**</b>	<b>72.3**</b>	<b>53.7**</b>	60.8	<b>66.5**</b>
<b>Colter</b>	<b>109.1**</b>	<b>73.0*</b>	<b>67.9**</b>	<b>52.4*</b>	<b>69.8*</b>	<b>52.5*</b>	59.2	<b>65.9*</b>
<b>CDC Falcon</b>	90.3	59.2	<b>64.4*</b>	51.0	66.6	<b>51.9*</b>	57.5	59.9
<b>Decade</b>	52.4	63.2	<b>64.1*</b>	51.9	68.3	49.7	55.1	58.8
<b>Jerry</b>	69.6	61.2	58.6	48.0	62.1	45.8	58.6	55.2
<b>LSD (0.05)</b>	<b>17.5</b>	<b>10.6</b>	<b>3.9</b>	<b>2.3</b>	<b>2.7</b>	<b>3.8</b>	ns	<b>2.9</b>

1/ = includes 2011-2015 Intrastate Tests and 2012-2015 Off Station tests

2/ includes data from Dry Creek, Willow Creek

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

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

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

6/ includes data from Loma, Turner

**Table 2. Agronomic characteristics of Colter vs. a set of recommended varieties, 2011-2015<sup>1/</sup>**

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	94	6	42		94	15	93	11	8	2
<b>CDC Falcon</b>	58.7	63	163.8	13-Jun	29.5	6	13.0	14	50	2.9
<b>Colter</b>	<b>59.3**</b>	57	166.1	15-Jun	32.8	11	<b>13.2*</b>	22	<b>20**</b>	2.9
<b>Decade</b>	<b>58.9*</b>	61	163.0	12-Jun	31.2	12	<b>13.3**</b>	16	70	3.2
<b>Jerry</b>	58.2	67	165.0	13-Jun	35.0	18	<b>13.2*</b>	19	73	3.2
<b>Yellowstone</b>	<b>58.9*</b>	54	165.5	15-Jun	32.9	10	12.9	18	<b>27*</b>	2.7
<b>LSD (0.05)</b>	<b>0.4</b>	ns	<b>0.5</b>		<b>0.4</b>	ns	<b>0.2</b>	<b>4</b>	<b>11</b>	<b>0.2</b>

1/ = includes 2011-2015 Intrastate Tests and 2012-2015 Off Station tests

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

Variety	PPO <sup>1/</sup>	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
<b>Colter</b>	0.271	81.5	67.9	11.2	0.42	5.10	9.0	63.4	16.5	74.4	1035
<b>Decade</b>	0.294	80.1	67.5	11.4	0.42	4.90	7.7	64.3	16.6	74.6	1054
<b>Yellowstone</b>	0.202	81.4	68.2	11.1	0.43	4.70	8.4	63.0	14.4	73.6	1063
<b>LSD (0.05)</b>	<b>0.035</b>	<b>ns</b>	<b>ns</b>	<b>ns</b>	<b>ns</b>	<b>ns</b>	<b>ns</b>	<b>1.0</b>	<b>1.6</b>	<b>ns</b>	<b>ns</b>

\*\* = 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)

<sup>1/</sup> polyphenol oxidase, low is best for noodles

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