

# Winter Wheat Breeding

## Intrastate Yield trial results





Intrastate yield trial (IYT) is conducted by the Montana Agriculture Experiment Stations (MAES) across the agro-climatic zones to evaluate the performance of hard red winter varieties and newly developed breeding lines across Montana. Thus, IYT plays critical role identifying new varieties.

**Table 1.** Grain yield and agronomic data of MSU, private and other public varieties evaluated in the Intrastate trial of 2024

Cultivars	Grain Yield bu/ac	Days to Heading (Julian)	Plant Height (inches)	Sawfly Cutting <sup>1</sup> (1-10)	Test Weight (lb/bu)	Protein (%)	Stripe Rust <sup>2</sup> (%)
AP Solid	70.3	162	30.6	2.0	60.2	12.2	67
Bobcat	76.0	164	29.5	2.0	62.2	12.5	7
Brawl CL Plus	71.6	158	31.5	4.0	59.7	12.6	70
CS Bridger CLP	78.7	162	30.1	6.0	58.9	12.6	12
Flathead	76.5	160	32.3	4.0	61.7	12.3	0
FourOsix	79.9	164	31.5	5.0	62.0	12.5	10
Judee	70.9	164	31.6	2.0	59.1	<b>13.1</b>	0
Keldin	76.5	163	31.1	4.0	61.8	11.7	17
LCS Steel AX	74.8	163	32.5	7.0	61.1	11.3	50
Loma	76.8	166	31.2	3.0	55.5	12.8	8
Milestone	72.5	162	30.2	6.0	59.8	12.0	22
MT WarCat	74.3	167	29.6	2.0	58.9	12.8	17
<b>MT Barrett</b>	<b>80.7</b>	<b>163</b>	<b>34.8</b>	<b>7.0</b>	<b>61.3</b>	<b>12.0</b>	<b>0</b>
Northern	72.5	165	33.0	4.0	58.5	12.8	0
Ramsay	<b>82.0</b>	164	31.9	4.0	61.5	12.1	23
StandClear CLP	77.4	164	32.2	2.0	62.8	12.8	0
SY Clearstone 2CL	77.6	165	34.9	6.0	60.8	12.4	15
Warhorse	68.6	165	31.2	1.0	61.6	12.8	5
Yellowstone	77.7	164	34.1	7.0	61.4	12.6	8
<b>Grand Mean</b>	74.5	163	31.6	3.6	60.0	12.3	29
<b>LSD</b>	8.3	1	2.2	2.2	6.42	0.51	45
<b>CV</b>	15.6	0.6	11.5	18.3	14.54	3.97	50.5
<b>Genotype significance</b>	***	***	***	***	NS	***	***
<b>GenxEnv significance</b>	***	***	NS	***	***	***	***
<b>Env significance</b>	***	***	***	*	***	***	NS

<sup>1</sup>Cutting scores from Ft Benton, trial conducted by Nutrien Ag Solutions. Rated 1-10, with 10 being severe cutting

<sup>2</sup>Data from Sidney, MT

	<p><b><u>MT BARRETT</u></b></p> <p>MT Barrett is a high yielding, tall, hollow stem line that carries the WSM2 gene and shows moderate resistance to wheat streak mosaic virus. It has shown stable yield performance across the testing locations. Being a hollow stem line, it is susceptible to wheat stem sawfly cutting. It has resistance to stripe rust, but susceptible to stem and leaf rust. Released by Montana Agricultural Experiment Station in 2025</p>
	<p><b><u>MT MEADOWLARK</u></b></p> <p>A high yielding solid stem winter wheat variety with good stripe rust resistance and does well in low pH soils. The variety does not show PLS in contrast to other varieties. Similar in heading and maturity to Bobcat and Warhorse with average height. Low in PPO and good end-use quality. Released by Montana Agricultural Experiment Station in 2024</p>
	<p><b><u>CS BRIDGER CLP</u></b></p> <p>A high yielding 2 gene-Clearfield hollow winter wheat variety with good strip rust resistance and winter hardiness. Low in PPO and rated as excellent in alkaline noodle quality by Wheat Quality Council, Kansas. Overall, the end-use quality is good. Released by Montana Agricultural Experiment Station in 2023</p>
	<p><b><u>MT CASH</u></b></p> <p>New tall early forage winter wheat variety with forage yield like Ray and good straw strength. ADF and NDF values are like Ray and Willowcreek, though seed yield is higher than Willowcreek it is lower than Ray. Excellent stripe rust resistance and end-use quality. Released by Montana Agricultural Experiment Station in 2023.</p>

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