

Small Grain Quick Facts: Hard Red Spring Wheat

Jason Cook and Hwa young Heo, Montana State University (Updated February 2026)

Full 2025 yield trial dataset located at this link: [SPRING WHEAT-Performance-Evaluation 2025.pdf \(montana.edu\)](https://montana.edu/SPRING_WHEAT-Performance-Evaluation_2025.pdf)

General Variety Descriptions: Descriptions are based on performance in multi-year/location yield trials that were grown using recommended conventional wheat farming practices. Actual variety performance may vary, depending on local growing conditions and farming methods. All varieties listed are PVP protected.

DAGMAR (MAES release, 2019): Moderately sawfly resistant, high yielding, high protein, good test weight, early maturing hard red spring wheat variety. Dagmar has performed well in diverse dryland growing environments and has excellent end-use quality. Susceptible to plant available aluminum in low pH soil.

MT 21074 (MAES release, 2026): Variety name is pending. Medium - late maturing hard red spring wheat variety that has better sawfly resistance than Dagmar and has good yield potential. Grain protein content and test weight are similar to Dagmar. End-use quality is good. Susceptible to plant available aluminum in low pH soils. Released for rain-fed environments that have high sawfly pressure. Susceptible to scab (fusarium head blight).

MT CARLSON (MAES release, 2023): Overall, one of the top yielding hard red spring wheat varieties in dryland growing environments, especially in drought conditions. Early maturing variety with grain protein content slightly higher than Vida, good test weight and better end-use quality than Vida. More susceptible to sawfly cutting compared to Vida and Dagmar. Tolerant of plant available aluminum in low pH soils. Susceptible to scab (fusarium head blight).

MT DUTTON (MAES release, 2023): One of the top yielding hard red spring wheat varieties in Montana's dryland growing environments. MT Dutton is a medium maturity variety with grain protein content that is higher than MT Carlson and Vida but slightly lower than Dagmar and MT 21074. Test weight ranges from being similar – slightly lower than MT Carlson and Vida. Some resistance to scab (fusarium head blight). Moderately susceptible to sawfly. End-use quality is similar to Vida.

MT UBET (MAES release, 2024): High yielding variety adapted to Montana rainfed growing environments. It has done especially well in the Sidney, MT yield trials. Has good grain protein content and good test weight. MT UBET has good gluten strength compared to Reeder and Vida and has an upright plant architecture. MT UBET is susceptible to wheat stem sawfly.

VIDA (MAES release, 2005): High yielding, good test weight, medium-late maturing hard red spring wheat variety for Montana's dryland growing environments. Vida has good drought tolerance and moderate sawfly resistance; however, Vida's sawfly resistance is not as good as Dagmar or Duclair. Grain protein content and end-use quality are average. Vida does not have tolerance to plant available aluminum in low pH soils.

Table 1. Agronomic Performance for Selected Varieties in the Advanced Spring Wheat Nursery (2022-2025)

VARIETY / LINE	BOZEMAN, CONRAD, FORT BENTON, HAVRE, HINGHAM, MOCCASIN, SIDNEY-DRY, KALISPELL, BOZEMAN-IRRI, SIDNEY-IRRI						FORT BENTON
	YIELD (BU/AC)	TEST WEIGHT (LB/BU)	PROTEIN (%)	PLANT HEIGHT (IN)	HEADING (JULIAN DAYS)	HEADING DATE	SAW FLY CUT (%)
N=LOC*YEARS	41	41	42	38	24	24	3
MT Dutton	76.0	60.4	14.2	31.1	175.7	25-Jun	52.2
MT Carlson	75.8	61.2	13.9	30.4	174.2	23-Jun	49.3
MT Ubet	75.1	61.1	14.1	30.1	174.2	23-Jun	86.1
DAGMAR	75.0	61.6	14.5	31.5	173.2	22-Jun	31.7
LCS ASCENT	74.3	62.1	13.5	30.4	172.4	21-Jun	72.8
VIDA	74.2	60.6	13.8	31.2	176.1	25-Jun	30.5
ROCKER	72.8	61.8	14.0	30.7	176.9	26-Jun	22.1
MT 21074	72.5	61.8	14.5	30.6	176.8	26-Jun	18.8
DUCLAIR	71.6	60.4	14.1	31.1	173.4	22-Jun	37.7
NS PRESSER CLP	70.9	59.7	13.7	32.7	178.1	27-Jun	56.7
LANNING	70.8	61.2	14.6	30.2	173.4	22-Jun	77.2
SY Longmire	70.7	61.7	14.3	29.6	175.0	24-Jun	38.8
WB 9879 CLP	70.0	60.8	14.4	30.1	175.8	25-Jun	17.8
SY ROCKFORD	69.9	60.3	13.8	30.8	177.0	26-Jun	77.8
REEDER	68.7	61.3	14.4	32.3	175.5	25-Jun	78.3
WB GUNNISON	68.4	61.4	13.6	29.2	175.2	24-Jun	20.4
AP Gunsmoke CL2	68.4	61.0	14.8	29.8	174.8	24-Jun	81.7
AP Smith	67.2	61.6	14.4	27.8	176.4	25-Jun	65.0
McNEAL	66.9	60.4	14.2	32.0	176.9	26-Jun	70.5
AAC Concord	63.9	60.6	14.5	35.4	176.8	26-Jun	30.0
THATCHER	56.3	59.9	14.3	39.5	178.0	27-Jun	70.5
LSD (0.05)	3.7	0.4	0.3	0.8	0.6		23.2

Table 2. Grain Yield (bu/ac) for Selected Varieties in Advanced Spring Wheat Nursery Across Montana (11 environments, 2022-2025)

VARIETY / LINE	Bozeman rain fed	Conrad rain fed	Fort Benton rain fed	Havre rain fed	Hingham rain fed	Huntley rain fed	Moccasin rain fed	Sidney rain fed	Kalispell wet	Bozeman irrigated	Sidney irrigated	Dry Locs. (8)	All Locs. (11)
N=LOC*YEARS	3	3	4	4	4	3	4	4	4	4	4	29	41
MT Dutton	100.2	40.4	49.7	50.2	42.6	82.9	36.9	74.0	108.4	114.3	107.9	58.9	76.0
MT Carlson	97.8	41.1	50.5	51.4	41.0	81.3	36.4	72.2	112.5	113.7	107.1	58.2	75.8
MT UBET	102.5	35.8	46.8	49.7	41.2	79.8	40.5	74.4	102.2	109.1	109.6	59.2	75.1
DAGMAR	95.3	41.2	49.9	51.9	37.7	81.9	42.0	69.9	112.0	109.4	106.8	57.8	75.0
LCS ASCENT	98.1	34.6	41.0	50.8	37.7	78.8	35.9	71.8	107.8	116.5	109.3	55.9	74.3
VIDA	95.8	37.6	54.8	51.1	41.4	80.9	41.2	70.8	100.6	107.6	104.3	59.2	74.2
ROCKER	96.1	40.6	54.0	49.2	39.7	80.6	36.7	67.9	98.9	105.6	107.4	57.3	72.8
MT 21074	95.7	40.0	53.8	50.0	37.6	80.3	37.2	64.9	101.4	111.9	99.9	56.5	72.5
DUCLAIR	94.4	36.7	49.5	46.8	38.2	76.3	36.8	61.2	103.3	109.5	104.9	54.5	71.6
NS PRESSER CLP	92.8	38.3	51.2	47.1	40.3	77.2	36.5	69.4	96.6	102.6	102.0	56.2	70.9
LANNING	94.0	33.6	44.1	47.9	37.6	75.4	35.5	71.5	99.3	102.4	104.8	55.1	70.8
SY Longmire	91.7	36.2	48.7	45.5	36.9	79.3	28.9	65.1	102.9	108.2	108.4	52.8	70.7
WB 9879 CLP	88.5	35.1	48.2	46.0	36.5	75.1	34.1	63.2	102.1	105.9	105.4	52.8	70.0
SY ROCKFORD	98.0	33.1	37.4	49.7	33.3	77.5	34.0	68.4	95.9	109.4	102.9	53.5	69.9
REEDER	92.9	35.7	39.1	46.6	38.9	70.7	32.5	66.7	98.7	100.5	102.7	52.8	68.7
WB GUNNISON	84.6	38.6	52.4	49.6	41.6	68.1	33.5	60.0	101.1	102.0	91.2	53.6	68.4
AP Gunsmoke CL2	87.1	34.7	37.6	46.1	33.3	75.3	30.4	67.6	98.4	104.9	109.9	50.4	68.4
AP Smith	88.4	33.2	35.7	46.7	33.7	74.7	30.7	66.2	100.4	100.7	102.6	50.2	67.2
McNEAL	83.0	32.7	42.3	45.4	40.4	74.1	35.5	66.1	92.2	97.1	100.4	52.1	66.9
AAC Concord	80.8	35.7	44.3	42.4	37.7	62.0	34.9	58.6	94.2	91.1	91.1	49.8	63.9
THATCHER	68.5	25.9	34.3	37.3	36.3	55.8	29.0	50.8	81.7	81.6	86.8	42.7	56.3
LSD (0.05)	9.8	6.0	8.5	5.5	4.5	9.4	5.1	3.6	9.9	9.0	5.7	4.3	3.7

Table 3. Milling and Baking Quality for Selected Varieties in the Advanced Spring Wheat Nursery (2023-2025)

Variety / Line	Flour yield (%)	Flour protein (%; 14% m.b.)	Mixing tolerance	Mixo mixing time (min.)	Mixo water absorption (%)	Bake mix time (min.)	Bake water absorption (%)	Loaf volume (cc)
WB GUNNISON	67.1	12.7	4.7	7.7	66.7	17.9	77.4	1081
ND Stampede	68.7	14.1	4.3	5.5	72.2	13.4	82.4	1133
SY LONGMIRE	69.7	14.0	4.3	5.0	68.4	12.5	78.4	1166
McNEAL	67.8	13.8	4.2	7.5	70.2	16.9	79.7	1183
AAC CONCORD	71.7	14.4	4.1	4.9	68.3	14.3	78.7	1099
AP SMITH	69.6	14.3	4.1	7.4	69.7	19.1	79.5	1063
MT 21487	70.6	13.7	4.0	5.4	68.2	15.0	78.2	1108
ROCKER	68.3	13.6	3.8	6.5	68.2	14.8	78.2	1152
DAGMAR	70.3	13.8	3.7	3.9	67.9	10.5	77.5	1146
DUCLAIR	68.9	13.8	3.6	4.4	67.8	11.4	77.8	1159
AP GUNSMOKE CL2	69.2	14.3	3.3	5.0	67.1	12.5	77.1	937
THATCHER	68.9	14.0	2.9	4.1	67.6	10.8	77.5	1117
LCS ASCENT	70.8	12.9	2.9	4.1	65.9	10.3	75.6	1072
LCS BOOM	71.3	13.8	2.9	4.1	68.8	10.6	78.4	1144
LANNING	69.4	14.1	2.9	4.0	68.7	10.4	78.6	1158
SY ROCKFORD	69.5	13.1	2.8	4.0	67.7	9.7	77.5	1035
MT 21074	68.7	14.0	2.7	3.8	66.8	7.6	76.2	1144
MT Carlson	67.5	13.6	2.7	3.3	66.4	7.8	76.2	1117
MT UBET	71.1	13.6	2.6	3.8	66.0	9.5	75.7	1073
MT Dutton	70.1	13.4	1.9	2.6	66.2	5.4	75.6	1138
REEDER	68.1	13.9	1.9	3.2	67.0	7.2	76.2	1122
NS PRESSER CLP	71.0	13.5	1.4	3.4	65.7	9.7	74.8	1074
WB 9879 CLP	67.5	14.0	1.4	1.9	65.5	3.8	73.5	1056
VIDA	71.7	13.2	1.3	3.3	66.2	7.8	76.0	1138
MEAN (n=26)	69.5	13.7	3.1	4.5	67.6	11.0	77.4	1113
C.V.	1.3	3.6	23.4	20.4	2.9	20.5	2.6	6.5
PROBABILITY	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
LSD(0.05)	0.8	0.5	0.7	0.8	1.8	2.1	1.9	67