

Project Title: Intra-State Winter Wheat Variety Trial - 2018

Objective: To evaluate the performance of winter wheat varieties in Northwestern Montana

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Summary:

The trial was planted under rainfed conditions in 2017 on silt loam soil. The management information is available in Table 1. Stripe rust disease pressure was not high at the initial rating done on June 10th. Subsequent ratings in July were not recorded due to interference from leaf senescence. Rust-susceptible varieties such as Decade showed lower yield and quality.

Yield was significant among the tested varieties. The average yield was 85.4 bu/A, ranging from 25.7 (Decade) to 124.9 (NSA10-2196) bu/A. Average protein was 11.8%, with the lowest at 10.2% (LCS Jet) and the highest at 13.9% (Bearpaw). Test weight averaged 58.4 lb/bu with a range of 49.6 (Bearpaw) to 62.3 (Oahe) lb/bu. The average TKW was 36.1 g. Average height was 37 inches with SY Clearstone-2CL the tallest and 07CL046-2 the shortest. Average heading date was 158 days. Complete agronomic performance is shown in Table 2.

Table 1. Management information

Seeding date:	9/26/2017	Harvest date:	8/1/2018
Julian date:	269	Julian date:	213
Seeding rate:	25 plants/ft ²	Soil type:	Creston silt loam
Previous crop:	Spring wheat (Egan)	Soil nutrient residual (lb/A):	172-8-178 (Fall, 2017)
Tillage:	conventional	Nutrient fertilizer applied (lb/A):	9-42-60 (Fall) 5-45-0 (Spring)
Herbicide:	Husky Complete	Insecticide	None

Table 2. Agronomic performance of the winter wheat varieties.

Variety/line	HD Julian	Rust %	HT in	YLD ¹ bu/A	PRO ² %	TWT ¹ lb/bu	TKW g
NSA10-2196	157	0	35.1	124.9	10.7	58.7	37.9
LWW14-73915	158	0	33.1	122.3	11.4	59.6	37.8
LCS Jet	158	1	34.5	122.3	10.2	59.0	39.5
MT1564	154	0	37.7	106.2	11.2	62.0	40.9
MT16101	158	0	38.7	105.5	12.0	60.0	40.7
Long Branch	153	0	34.0	101.5	11.4	62.2	39.7
Keldin	158	0	37.7	101.3	11.2	61.8	40.0
Oahe	156	1	41.1	100.5	12.0	62.3	40.5
MT1683	159	0	41.7	100.1	11.5	59.5	41.8
Ray	163	0	41.0	97.2	11.6	53.9	37.7
MT1642	161	0	35.3	96.2	11.6	54.3	39.1
SY Sunrise	158	0	32.3	95.3	11.7	61.7	36.0
MT1547	158	0	37.3	94.5	11.1	62.0	41.3
Judee	158	0	39.1	94.5	13.2	58.4	38.7
MTS1588	159	0	34.5	94.1	12.0	59.8	37.0
MT1695	154	0	35.6	93.7	11.1	61.8	34.8
MT1265	161	0	39.3	93.1	11.1	58.6	40.9
MTW1491	160	1	39.4	92.4	11.4	59.5	43.8
FourOsix	159	0	37.3	92.4	11.2	61.2	40.2
Warhorse	160	0	35.6	92.0	12.5	61.0	42.2
MT1687	156	0	33.0	89.6	12.8	61.6	30.8
SY Clearstone 2CL	160	0	44.0	89.6	11.0	59.1	38.4
Loma	159	0	37.2	87.6	12.3	55.4	41.0
WB4623CLP	158	0	36.2	87.2	12.5	60.9	39.4
Langin	151	0	37.2	87.1	11.5	58.7	42.1
Brawl CLP	151	3	33.4	86.9	12.2	60.2	42.0
MT1563	160	0	39.2	86.6	11.3	56.4	33.4
MTF1631	159	0	43.0	85.6	12.1	55.0	41.7

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(Continuation) Table 2. Agronomic performance of the winter wheat varieties.

Variety/line	HD Julian	Rust %	HT in	YLD ¹ bu/A	PRO ² %	TWT ¹ lb/bu	TKW g
MTCS1601	159	1	35.4	85.4	12.7	60.5	35.1
SY Monument	156	0	36.3	84.1	11.6	58.8	38.5
Yellowstone	161	0	36.6	83.6	11.0	57.8	36.7
AAC Wildfire	161	0	42.7	83.2	11.9	55.8	37.1
MTV1681	157	1	37.3	82.2	11.8	55.9	33.0
LCS Link	155	1	34.6	80.1	11.6	59.7	37.5
MTF1435	160	0	43.1	79.8	12.1	56.5	28.8
MT1688	155	0	33.4	79.7	12.4	61.4	32.2
LCS Chrome	155	0	37.2	78.5	11.8	61.0	40.0
Northern	161	0	37.0	78.2	12.2	56.2	37.2
WB4483	160	7	35.2	74.5	12.3	57.6	36.1
WB4614	157	2	34.7	72.2	11.7	57.5	34.1
PSB13NEDH-7-140	157	0	41.2	72.1	11.6	59.7	25.5
SY Wolf	153	0	33.0	71.5	12.2	56.4	33.2
07CL046-2	156	0	30.1	71.2	12.0	60.8	32.5
CO13003C	154	14	38.5	70.1	11.8	55.3	33.9
SY 517 CL2	151	7	36.1	53.2	11.6	56.0	25.1
Incline AX	158	3	34.5	52.9	11.4	52.7	27.2
Decade	157	8	39.5	48.4	11.5	53.1	23.7
WB4575	158	15	35.7	36.4	12.4	53.3	20.5
Bearpaw	157	7	37.8	25.7	13.9	49.6	20.6
Mean	157	1.5	37.0	85.4	11.8	58.4	36.1
CV	1.0	230	6.1	12.9	3.6	3.6	0.2
LSD	2.8	4.1	3.9	19.2	0.7	3.4	4.5
Pr>F	<.0001	<.0001	<.0001	<.0001	<.0001	<.0001	<.0001

YLD: yield, PRO: protein, TWT: test weight, TKW: thousand kernel weight, HT: plant height, HD: heading, and FN: falling numbers.

¹ Adjusted to 13% moisture

² Adjusted to 12% moisture