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PROJECT TITLE: Evaluation of hard red winter wheat variety trial, offstation, Ryegate, MT.

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PROJECT PERSONNEL: John Ranney, Yellowstone Co. Agent
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OBJECTIVES: Offstation trials are conducted to evaluate cereal crop varieties grown under various environmental conditions. The offstation sites allow for new promising selections to be compared directly with present varieties under commercial farming managements. These trials are used not only for demonstration of new or potential releases, they also provide a significant data base for use by the plant breeder when evaluating cultivars responses to various environments.

RESULTS: Yields were quite good averaging approx. 70 Bu/A with Kestrel (a release from Saskatchewan) yielding the most (79.97 Bu/A) and only 6 lines yielding significantly lower than the others. Test weights were low ranging from 53 to 60 Lb/Bu, with Norstar the highest (60.2) while Arapaho was the lowest (52.8). Proteins were low, possibly due to the excessive moisture from filling through harvest.

SUMMARY: Yields were excellent, while test weights and proteins were low probably due to excessive moisture from filling to harvest.

FUTURE PLANS: Plans are to continue offstation trials, but we are considering a more standardized approach. We plan to assess areas offstation which represent large areas of similarity, different from on center conditions. These sites will then become long term sites so as to develop data over years at the same site for more viable and comparable information.

TABLE 1. 1993 SARC OFF STATION WINTER WHEAT TRIAL, BETWEEN RYEGATE AND BROADVIEW. COULEE HILL RANCH, TONY ZINNE. 166

VARIETY	YIELD BU/AC	TESTWT LB/BU	PLANTHT INCHES	% PROTEIN
S86-15 KESTREL	79.97	58.90	33.00	9.93
ID 279 BLIZZARD	78.60	54.50	33.67	11.89
PI517194 TIBER	78.12	58.70	36.33	9.83
CI 17846 MANNING	76.87	54.20	28.00	11.00
CI 17727 WESTON	74.23	56.60	36.67	12.81
RH78W296 BIGHORN	74.11	55.20	24.33	11.27
CI 17902 WINRIDGE	74.09	57.10	33.33	10.46
QT 542 HYBRITECH	73.75	59.00	34.33	11.31
RDW(sel) AC READYMADE	73.39	58.80	33.67	12.61
PI491532 CREE	71.17	56.70	35.00	11.63
PI518591 ARAPAHO	70.62	52.80	29.00	14.46
CI 17735 NORSTAR	70.44	60.20	40.67	10.03
CI 17860 NEELEY	69.99	55.70	33.00	10.43
MT 8039 JUDITH	68.73	55.10	30.00	10.89
PI478771 AGASSIZ	67.85	58.40	39.33	12.48
CI 15075 CENTURK	67.28	56.10	31.67	12.60
CI 17844 REDWIN	67.09	56.00	35.00	10.16
CI 17879 ROCKY	66.37	56.80	33.33	11.52
CI 13190 WARRIOR	65.49	54.00	37.33	12.59
CI 17952 HAWK	64.86	57.30	23.00	12.34
ND 8002 SEWARD	62.19	58.10	35.00	11.15
CI 13670 WINALTA	58.30	58.20	38.67	12.39
CI 17940 ARCHER	56.00	53.80	20.67	12.57

***** STATISTICAL TABLE *****

	YIELD BU/AC	PLANTHT INCHES
EXPERIMENTAL MEANS	69.98	32.83
TOTAL OBSERVATIONS	69.00	69.00
NO. OF REPLICATIONS	3.00	3.00
NO. OF VARIETIES	23.00	23.00
REP. MEAN SQUARE	1129.59	95.78
VAR. MEAN SQUARE	114.72	77.39
ERROR MEAN SQUARE	57.53	10.22
ERROR DEGREES OF FREEDOM	44.00	44.00
F TEST FOR REPS.	19.64	9.37
F TEST FOR VAR.	1.99	7.57
STANDARD ERROR	7.58	3.20
STANDARD ERROR OF THE MEAN	4.38	1.85
C.V. 1: (S/MEAN)*100	10.84	9.74
C.V. 2: (S OF MEAN/MEAN)*100	6.26	5.62
LSD (0.05)	12.48	5.26

FB388193.WWD
3881PROM.WWD

DATE PLANTED: 10/14/92
DATE HARVESTED: 7/27/93