PROJECT TITLE: The evaluation of cereal cultivars for use as forage crops.

PROJECT LEADER: D. Wichman, CARC, Moccasin; G.F. Stallknecht, SARC

PROJECT PERSONNEL: K.M. Gilbertson, SARC

OBJECTIVES: To evaluate various oat and awnless or hooded barley lines for forage yield. The were harvested at approx. 4 days after heading, as this is a trade off between highest quality (anthesis) and traditional harvest stage (soft dough).

RESULTS: On dryland Haybet (awnless) barley yielded the most (1.38 T/A) and all barleys but Horsford out yielded the oat varieties. While on irrigated two barley lines from Bozeman yielded significantly more that the rest. The oat lines did better than some of the barleys under irrigation.

SUMMARY: It appears there are significantly better hay barleys and oats than the old standby hay barley Horsford. Also, most barleys are better than oats, however nitrate analysis is still to be done.

FUTURE PLANS: We plan to continue this trial in conjunction with other research centers and will evaluate nitrate status as funding allows.

Table 1. 1993 MAES STATEWIDE UNIFORM CEREAL FORAGE TRIAL, DRYLAND, SOUTHERN AG RESEARCH CENTER, HUNTLEY, MT.

PLANTED 4/8/93

ID	VARIETY	TONSAC1	HEADDATE	PLANTHT	HARV/DATE
CF5	HAYBET	1.382 G	164.3 E	24.00 CB	6/21/93
CF6	WESTFORD	1.257 F	171.8 G	25.00 C D	6/28/93
CF10	MTPH3	1.225 F E	161.3 C	25.50 C D	6/18/93
CF8	MTPH1	1.205 F E	159.0 B	25.25 C D	6/18/93
CF9	MTPH2	1.183 FDE	161.0 C	25.00 C D	6/18/93
CF1	MONIDA	1.132 C DE	164.5 EF	23.00 B	6/21/93
CF3	MAGNUM	1.088 CBD	162.5 D	26.25 E D	6/21/93
CF2	OTANA	1.060 CB	165.0 F	25.75 D	6/21/93
CF4	STAMPEDE	.9825 B	172.5 H	17.50 A	6/28/93
CF7	HORSFORD	.8700 A	157.0 A	27.50 E	6/14/93

Multiple comparisons are 0.05 LSD.

SUMMARY STATISTICS:

	TONSAC1	HEADDATE	PLANTHT
OVERALL MEAN =	1.139	163.9	24.48
OVERALL COUNT =	40	40	40
NO. BLKS USED =	4	4	4
NO. TRTS USED =	10	10	10
MEAN TRT MEANS=	1.138	163.9	24.48
BLOCK MS =	.1345	2.025	7.292
TREATMENT MS =	.8567E-01	100.6	29.86
ERROR MS =	.1118E-01	.4139	2.569
ERROR DF =	27	27	27
F-RATIO TRTS =	7.662	243.0	11.62
P-VALUE TRTS =	.0000	.0000	.0000
STD DEV (S) =	.1057	.6433	1.603
CV (S/MEAN) =	9.288	.3926	6.549
SE TRT MEANS =	.5287E-01	.3217	.8015
CV (SE/MEAN) =	4.644	.1963	3.275
LSD(0.05 by t)=	.1534	.9334	2.326

FBCF9308.FRD
DRY2.STT

Table 2. 1993 MAES STATEWIDE UNIFORM CEREAL FORAGE TRIAL, IRRIGATED, SOUTHERN AG RESEARCH CENTER, HUNTLEY, MT.

PLANTED 4/7/93

ID	VARIETY	TONSAC1	HEADDATE	PLANTHT	HARV/DATE
CF10	MTph3	2.477 C	160.8 C	30.75 B	6/18/93
CF9	MTph2	2.402 C	160.8 C	35.00 D	6/18/93
CF5	HAYBET	2.030 B	163.8 D	34.00 C D	6/21/93
CF3	MAGNUM	1.952 B	164.3 E	35.00 D	6/21/93
CF1	MONIDA	1.938 B	165.0 F	32.75 CBD	6/21/93
CF4	STAMPEDE	1.900 B	174.8 I	25.50 A	6/28/93
CF2	OTANA	1.875 B	165.5 G	33.25 CBD	6/21/93
CF6	WESTFORD	1.865 B	168.8 H	31.25 CB	6/28/93
CF8	MTph1	1.800 B	159.0 B	32.75 CBD	6/18/93
CF7	HORSFORD	1.280 A	157.0 A	33.50 CBD	6/14/93

Multiple comparisons are 0.05 LSD.

SUMMARY STATISTICS:

	TONSAC1	HEADDATE	PLANTHT
OVERALL MEAN =	1.952	163.9	32.38
OVERALL COUNT =	40	40	40
NO. BLKS USED =	4	4	4
NO. TRTS USED =	10	10	10
MEAN TRT MEANS=	1.952	163.9	32.38
BLOCK MS =	.8850E-01	.5667	16.76
TREATMENT MS =	.4339	105.2	31.07
ERROR MS =	.7733E-01	.1407	8.573
ERROR DF =	27	27	27
F-RATIO TRTS =	5.611	747.3	3.624
P-VALUE TRTS =	.0002	.0000	.0037
STD DEV (S) =	.2781	.3751	2.928
CV (S/MEAN) =	14.25	.2288	9.044
SE TRT MEANS =	.1390	.1876	1.464
CV (SE/MEAN) =	7.123	.1144	4.522
LSD(0.05 by t)=	.4035	.5443	4.248
COUNT PER MEAN=	4	4	4

FBCF9309.FRD
IRR2.STT