Table 5. Barley variety yield test data summary, Mesa Experiment Farm, 1982.

	Lodging %	Heading date	Maturity date	Test weight lbs/bu	Grain yield[1/] lbs/A
BFP-78-77	0	3-19	5-6	52.0	7047 a
BFP-80-24B	0	3-20	5-15	53.5	7040 a
76-15-1	0	3-20	5-11	52.5	6978 ab
BFP-79-18	0	3-20	5-16	53.5	6903 ab
X-1248	0	3-26	5-17	46.0	6821 abc
BFP-78-78	8	3-13	5-4	51.5	6643 abcd
Prato	4	3-12	5-5	50.0	6618 abcd
BFP-79-22	0	3-22	5-16	53.0	6609 abcd
BFP-78-40C	0	3-20	5-14	51.5	6520 abcd
Gus	0	3-19	5-7	53.0	6454 abcde
BFP-78-63	0	3-24	5-10	50.5	6207 bcde
Westbred 501	0	3-19	5-5	52.5	6067 cde
X-1275	0	3-23	5-7	49.0	5996 de
Arivat	36	3-8	5-4	50.0	5697 e
Sunbar	0	3-21	5-10	49.0	5647 e
CM-72	100	3-6	5-1	49.5	5459

[1/] Yields followed by the same letter are not significantly different at the 5% level of probability using Duncan's Multiple Range Test.

Table 6. Hard White bread wheat cultivar yield test data summary, Mesa Experiment Farm, 1982.

	Lodging %	Heading date	Maturity date	Plant height in	Test weight lbs/bu	Grain yield[1/] lbs/A
Enano Dwarf	0	3-12	5-4	29.9	65.0	7418 a
Klassic	11	3-9	5-2	32.7	65.5	7184 ab
Bob White "S"	7	3-13	5-8	38.2	65.5	7131 ab
Pavon 76	2	3-14	5-8	41.4	66.0	7078 ab
Vireo "S"	12	3-13	5-5	37.4	65.0	6793 abc
Veery #5	0	3-19	5-9	40.6	64.5	6783 abc
SGW-012	1	3-11	5-5	37.4	65.0	6744 abc
Yecorato 77	12	3-8	5-3	33.1	64.5	6724 abc
M80-77-30	1	3-12	5-7	39.0	64.5	6651 abc
SGW-022	38	3-10	5-4	31.9	64.5	6286 bc
Nacozari	3	3-13	5-7	38.2	64.5	6090 c
C79-197-1	0	4-4	5-19	34.7	60.0	6003 c
Sonalika	48	3-7	5-4	37.4	64.0	5946 c
SGY-010	1	3-11	5-5	37.4	65.0	5932 c

[1/] Yields followed by the same letter are not significantly different at the 5% level of probability using Duncan's Multiple Range Test.

Small Grain Simulated Pasture Forage plus Grain Evaluation
The University of Arizona, Mesa Experiment Farm, 1982.

R. K. Thompson and J. L. Bobula

Summary

Recent emphasis on short stiff straw barley varieties for maximum grain production and frequent inquiries as to their forage value prompted this forage-grain study. After four years of evaluation it is evident that the new barleys can be very useful as winter pasture prior to a grain harvest. Gus barley performance has been outstanding with repeated excellent simulated pasture forage production followed by maximal grain yields. Recently Prato and some new prospective varieties have emerged as being very competitive with Gus.

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Historically, and particularly in winter grain growing areas, small grains have been utilized as winter pasture while they are in the vegetative stage of growth and prior to grain harvest. In Arizona, Harlan II barley and Mesa Oats have been identified as the most productive varieties for winter forage production. Emphasis on short stiff-strawed grain varieties resulted in a need to know something of their forage value.

The fourth year of a performance test evaluating barley and wheat cultivars grown for simulated pasture plus grain was harvested in 1982 at the Mesa Experiment Farm. The test was seeded October 15, 1981 at 100 lbs per acre. Pasture harvest was simulated by clipping with a sickle mower near initiation of the jointing stage of plant growth when plants were 12 to 18 inches tall. The succeeding grain harvest was with a Hege plot combine after two, and after three clippings. The final clipping before allowing grain formation was made on February 15. For the assimilation of data, the assumption was made that high quality pasture forage dry matter equals grain in nutritive value.

Oats were dropped from the test for the 1982 harvest. Although oats are very competitive for forage, the yield of grain is not equal to barley or the best wheats. Overall performance of Gus barley, as presented in Table 1, has been excellent. Prato, BFP-79-22 and BFP-78-63 are examples of other very competitive barley cultivars for this culture and utilization (see Table 1 and Table 2). The durum variety, 1000 D continues as the best durum variety evaluated and Zaragoza has been the leading common wheat variety tested.

Table 1. Average performance of barley and wheat varieties grown at the Mesa Experiment Farm for simulated pasture forage for four years 1978-82.

	Four year average yields in lbs/A		
	Forage dry weight	Grain	Forage + grain
Prato barley[1/]	3904	6311	10215
Gus barley	3917	5947	9864
Harlan II barley	4846	4531	9357
1000 D wheat	3334	5210	8544
Zaragoza wheat	3569	4790	8359

[1/] Prato barley averages are only for two years and include high grain yield (7162 lb/acre) for 1981.

Table 2. Simulated pasture forage plus grain evaluation of barley and wheat at the Mesa Experiment Farm in 1982.

	Forage dry matter			Total forage		Total grain			Forage + grain
	12-14 lbs/A	1-18 lbs/A	2-15 lbs/A	lbs/A	Rank	lbs/A	Rank	lbs/bu	lbs/A
BFP-79-22 barley	1008	1261	1220	3489	(7)	6142	(1)	49.0	9631
Prato barley	1269	1512	1176	3957	(4)	5460	(3)	48.0	9417
Gus barley	895	1307	1214	3416	(8)	5748	(2)	49.0	9164
BFP-78-63 barley	1095	1572	1034	3701	(6)	5345	(4)	47.5	9046
Harlan II barley	1412	1832	984	4226	(1)	4592	(7)	48.5	8818
BFP-78-20 barley	863	1155	1115	3133	(10)	5227	(5)	49.0	8360
BFP-81-32 barley	1404	1456	1190	4050	(3)	4278	(10)	43.0	8328
BFP-81-28 barley	1545	1238	1329	4112	(2)	4039	(11)	45.0	8151
1000 D durum	737	1188	770	2695	(11)	5134	(6)	60.0	7829
BFP-81-29 barley	1568	1000	1269	3837	(5)	3924	(12)	45.0	7761
Zaragoza wheat	657	1867	628	3152	(9)	4478	(8)	61.5	7630
Mitt wheat	418	863	1170	2451	(12)	4403	(9)	63.5	6854