

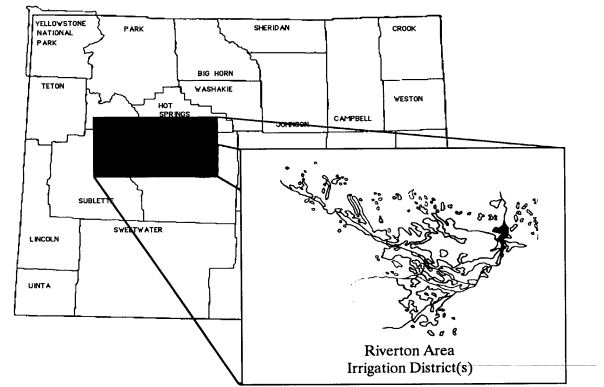
# Crop Enterprise Budget

## Feed Barley, Riverton Area

John P. Hewlett, Farm/Ranch Management Extension Specialist  
Barry R. Munsell, Student Research Assistant  
Tom Heald, Extension Educator  
Alan Gray, Extension Agronomy Specialist  
Ron Cunningham, Extension Educator  
Fremont County Producers

MP-88.4

University of Wyoming - August, 1994



This enterprise budget presents estimated typical costs and returns feed barley in the Riverton area of Wyoming. Data presented are not taken from an actual farm situation. A panel of Fremont County producers assisted in outlining the “representative” farm situation described by the budget. Thus, the budget provides a guide to determining costs and returns for specific operations. Production practices presented in the budget are not necessarily “best” management practices. The major assumptions used in this budget are presented below.

### LAND

The budget is based on a 480 acre farm, with 50 acres of feed barley grown each year. Other enterprises included on this farm are: alfalfa establishment, 40 acres; alfalfa hay, 200 acres; dry beans, 40 acres; sugar beets, 120 acres; and 273 head of cattle grazed on crop aftermath. The remaining 30 acres include roadways, fence lines, and farmsteads. All owned land is valued at \$800 per acre. Leased land is rented on a cash-lease basis for \$75 per acre. The land owner pays for irrigation water, taxes, insurance, long term interest, and depreciation for owned land and improvements.

### LABOR

Labor is provided by the operator and one full-time employee. All labor, including operator labor, is valued at \$5 per hour plus 7.65 percent to cover social security and federal withholding taxes. Labor charges for the owner/operator represent an opportunity cost for the time spent in this enterprise. Some part-time labor may be used on the farm for labor-intensive operations such as harvest.

### CAPITAL

The operator provides 50 percent of the long-term capital and 50 percent of the operating capital for this enterprise. Fifty percent of the long-term capital is borrowed at an interest rate of 8.0 percent APR (Annual Percentage Rate). Fifty percent of the operating capital is borrowed at an interest rate of 8.5 percent APR. The interest rates used here are for short-term planning. Real interest rates (interest rates adjusted for expected inflation) should be used for accurate long-term planning.

### MACHINERY, EQUIPMENT, AND BUILDINGS

A complete list of the machinery, equipment, and buildings used in this enterprise and the associated values are provided in Table 1. All resources are assumed to be half depreciated. Estimated operating and ownership costs are given in Table 3. Table 3 lists only the resources used in this enterprise. Other resources used on the farm are not included. However, the reader should note that the resources listed in Tables 1 and 3 may also be used in other enterprises on the farm.

Each irrigated acre on the farm is assumed to be irrigated by a fraction of the total irrigation system. The irrigation water provided by each irrigation system is broken down as follows: 18 percent concrete ditch and 82 percent gated pipe (50 percent aluminum and 50 percent plastic). This method was employed because crops will normally be rotated onto all farmed land over time. Table 2 presents an estimate of the cost per acre-inch for providing irrigation water for each type of irrigation.

## OPERATIONS

Operations related to feed barley are listed in chronological order in the enterprise budget. Ground preparation begins in mid March, including custom fertilization. Planting usually occurs in later March and the crop is insured against weather damage/loss. After corrugating, irrigation begins in mid May. A total of 5 irrigations are scheduled for the growing season. The first four irrigations are for the feed barley crop, while the fifth is used to produce additional forage for the aftermath grazing enterprise. A total of 33 acre-inches of water is applied per acre of feed barley.

Harvest begins around mid August. The crop is swathed and custom threshed. Once the owned grain storage is filled, the remaining barley crop is hauled to a local elevator, where it stored for an average of three months before it is sold.

## ENTERPRISE BUDGET

Economic costs and returns for feed barley are summarized by operation in the enterprise budget. Costs are broken down by stage of production. General overhead and operator management have been calculated at 5 percent and 10 percent of all cash costs, respectively.

Costs and returns for the cash lease arrangement are also summarized in the budget. Costs paid/received by the tenant, including the cash land rent are listed in the tenant column. Items paid/received by the landowner, including the cash land rent income are included in the landowner column. The far right column has been provided to calculate changes from this base budget for your operation.

## SUMMARY

Gross income for the feed barley enterprise is estimated at \$200.00 per acre. Total variable costs are estimated at \$178.14 per acre, with total fixed costs at \$110.67 per acre. The total of all costs for feed barley is estimated at \$288.81 per acre, leaving a net projected return of (\$88.81) per acre. The net projected returns for the lease arrangement are (\$5.54) per acre for the landowner and (\$94.52) per acre for the tenant.

# Feed Barley

## Enterprise Budget Economic Costs and Returns per Acre Feed Barley - Riverton Area 50 Acre Enterprise

RETURNS SECTION -----							
				--- Crop-Share ---			
				Owner- Operator 100%	Land- owner 0%	Tenant 100%	Your Return
GROSS INCOME Description	Quantity	Unit	\$/Unit	Total	Total	Total	
=====	=====	=====	=====	=====	=====	=====	=====
FEED BARLEY	100.00	BU	2.00	\$200.00	\$0.00	\$200.00	
CASH LAND RENT	1.00	ACRE	75.00	----	75.00	0.00	
=====	=====	=====	=====	=====	=====	=====	=====
Total GROSS Income				\$200.00	\$75.00	\$200.00	

VARIABLE COSTS SECTION -----											
				----- M a t e r i a l s -----			Materials	--- Crop-Share ---			
							Total Cost	Owner-	Land-	Tenant	Your
VARIABLE COST Description	Dollars per Acre			Description	# Units	Unit	Per Acre	Operator	owner		Cost
=====	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====
**ANNUAL**											
METAL SHOP								2.30	----		2.30
LOAFING SHED								0.30	----		0.30
3000 BU GRANERY								1.32	----		1.32
4-WHEELER	2.97	5.27						8.24	----		8.24
1/2 TON PICKUP - 2WD	4.31	1.42						5.73	----		5.73
1/2 TON PICKUP - 4WD	4.31	1.42						5.73	----		5.73
CASH LAND RENT							75.00	----			75.00
GENERAL OVERHEAD								6.99	----		10.74
OPERATOR MANAGEMENT								13.99	----		21.49
=====	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====
Total ANNUAL								\$44.60	\$0.00	\$130.85	
**PRE-PLANT SPRING**											
CUSTOM FERTILIZE 120-30-0							33.98	33.98	----		33.98
FIELD CULTIVATE Operation	0.99	1.70						2.69	----		2.69
ROLLER HARROW Operation	0.85	1.65						2.50	----		2.50
=====	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====
Total PRE-PLANT SPRING								\$39.17	\$0.00	\$39.17	
**PLANT**											
HAUL SEED Operation	0.22	0.14						0.36	----		0.36
PLANT BARLEY Operation	1.48	1.93	BARLEY SEED	1.10	Cwt	13.21	14.53	17.94	----		17.94
CROP INSURANCE BARLEY							6.99	6.99	----		6.99
=====	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====
Total PLANT								\$25.29	\$0.00	\$25.29	
**GROW**											
CORRUGATE 6-ROW Operation	1.48	2.13						3.61	----		3.61
LAY GATED PIPE Operation	0.46	0.25						0.71	----		0.71
CONCRETE DITCH	0.26		Purchased Water				0.36	0.62	0.36		0.26
GATED PIPE	0.65		Purchased Water				1.69	2.34	1.69		0.65
CUSTOM SPRAY WEEDS		3.47	BRONATE	0.13	Gal	56.68	7.09	10.56	----		10.56
CONCRETE DITCH	0.26		Purchased Water				0.36	0.62	0.36		0.26
GATED PIPE	0.65		Purchased Water				1.69	2.34	1.69		0.65
CONCRETE DITCH	0.26		Purchased Water				0.36	0.62	0.36		0.26
GATED PIPE	0.65		Purchased Water				1.69	2.34	1.69		0.65
CONCRETE DITCH	0.26		Purchased Water				0.36	0.62	0.36		0.26
GATED PIPE	0.65		Purchased Water				1.69	2.34	1.69		0.65
=====	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====
Total GROW								\$26.72	\$8.20	\$18.52	

Riverton Area, August 1994

## Feed Barley

VARIABLE COSTS SECTION				----- M a t e r i a l s -----				Materials		--- Crop-Share ---		
VARIABLE COST	Description	LABOR	MACHINERY	Description	# Units	Unit	\$/unit	Total Cost	Owner-Operator	Land-owner	Tenant	Your Cost
=====												
**HARVEST**												
PIKUP GATED PIPE	Operation	0.46	0.25						0.71	----	0.71	
SWATH	Operation	0.77	1.29						2.06	----	2.06	
CUSTOM COMBINE	W/ PIKUP							25.00	25.00	----	25.00	
HAUL BARLEY 2 TN	Operation	0.30	0.19						0.49	----	0.49	
HAUL BARLEY TNDM	Operation	0.30	0.14						0.44	----	0.44	
AUGER BARLEY	Operation	2.63	2.82						5.45	----	5.45	
3 MONTHS BARLEY	STORAGE							1.15	1.15	----	1.15	
-----												
Total HARVEST									\$35.30	\$0.00	\$35.30	
**POST HARVEST**												
LAY GATED PIPE	Operation	0.46	0.25						0.71	----	0.71	
CONCRETE DITCH		0.26		Purchased Water				0.36	0.62	0.36	0.26	
GATED PIPE		0.65		Purchased Water				1.69	2.34	1.69	0.65	
PIKUP GATED PIPE	Operation	0.46	0.25						0.71	----	0.71	
-----												
OPERATING INTEREST									\$4.38	\$2.05	\$2.33	
									2.68	----	2.68	
=====												
Total VARIABLE COST									\$178.14	\$10.25	\$254.14	
-----												
GROSS INCOME minus VARIABLE COST									\$21.86	\$64.75	(\$54.14)	
FIXED COSTS SECTION -----												
		--- Crop-Share ---										
FIXED COST	Description	Unit	Owner-Operator	Land-owner	Tenant	Your Cost						
=====												
Machinery and Equipment:												
Taxes		Acre	1.76	----	1.76							
Insurance		Acre	3.00	----	3.00							
Long Term Interest		Acre	13.79	----	13.79							
Depreciation		Acre	21.82	----	21.82							
Buildings and Improvements:												
Taxes		Acre	1.00	1.00	----							
Insurance		Acre	0.46	0.46	----							
Long Term Interest		Acre	9.64	9.64	----							
Depreciation		Acre	7.90	7.90	----							
Irrigation:												
Taxes		Acre	0.35	0.35	----							
Insurance		Acre	0.16	0.16	----							
Long Term Interest		Acre	2.98	2.98	----							
Depreciation		Acre	4.52	4.52	----							
Land:												
Taxes		Acre	4.31	4.31	----							
Long Term Interest		Acre	38.98	38.98	----							
=====												
Total FIXED Cost			\$110.67	\$70.29	\$40.38							
-----												
Total of ALL Cost			\$288.81	\$80.54	\$294.52							
*****												
NET PROJECTED RETURNS			(\$88.81)	(\$5.54)	(\$94.52)							
*****												

# Feed Barley

TABLE 1. Machinery, Equipment, and Building Value and Use Assumptions

Resource Name	Current List Price	Current Market Value	Salvage Value	Total Defined Annual Use	Useful Life	Remaining Life
=====	=====	=====	=====	=====	=====	=====
100 HP TRACTOR 2WD	\$43,409	\$29,279	\$15,149	986 Hours	7,888 Hours	3,944 Hours
140 HP TRACTOR 2WD	\$55,430	\$31,271	\$7,112	223 Hours	4,460 Hours	2,230 Hours
4-WHEELER 2WD	\$1,729	\$1,127	\$526	1,000 Hours	5,000 Hours	2,500 Hours
SWATHER-14 FT	\$38,298	\$20,214	\$2,129	130 Hours	2,600 Hours	1,300 Hours
CORRUGATOR 6-ROW	\$5,601	\$2,946	\$292	73 Hours	1,460 Hours	730 Hours
FIELD CULTIVATOR 18 FT	\$4,530	\$2,383	\$236	25 Hours	500 Hours	250 Hours
GRAIN DRILL 12 FT	\$7,449	\$4,240	\$1,032	23 Hours	276 Hours	138 Hours
PIPE TRAILER	\$1,213	\$616	\$19	78 Hours	2,340 Hours	1,170 Hours
PTO GRAIN AUGER 6X45 FT	\$2,105	\$1,107	\$110	23 Hours	460 Hours	230 Hours
ROLLER HARROW 15 FT	\$7,733	\$4,068	\$403	93 Hours	1,860 Hours	930 Hours
1/2 TON PICKUP 4WD	\$12,437	\$7,810	\$3,184	10,000 Miles	75,000 Miles	37,500 Miles
2 TON TRUCK	\$10,974	\$6,452	\$1,931	4,730 Miles	50,000 Miles	25,000 Miles
3/4 TON PICKUP 4WD	\$15,315	\$9,618	\$3,921	10,000 Miles	75,000 Miles	37,500 Miles
TANDEM TRUCK	\$16,628	\$9,458	\$2,289	3,975 Miles	50,000 Miles	25,000 Miles
CONCRETE DITCH	\$2,812	\$1,666	\$520	3,913 Ac-In	39,750 Ac-In	19,875 Ac-In
GATED PIPE	\$51,140	\$27,759	\$5,237	18,180 Ac-In	272,700 Ac-In	136,350 Ac-In
3000 BU GRANERY		\$3,000	\$300		30 Years	15 Years
FENCES 3.0 MILES		\$7,207	\$721		30 Years	15 Years
LOAFING SHED 16 x 40		\$5,000	\$500		30 Years	15 Years
METAL SHOP 40 x 80		\$20,000	\$2,000		30 Years	15 Years

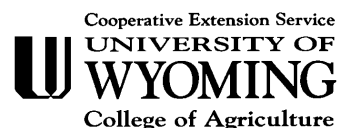
TABLE 2. Irrigation System Costs per Acre-Inch Delivered

	Concrete Ditch	Gated Pipe
Variable Costs		
Repair and Maintenance (Off-Farm).....	\$ - - -	\$0.04
Owner Operation Labor.....	0.23	0.08
Purchased Water.....	0.31	0.31
Fixed Costs		
Taxes.....	- - -	0.01
Interest on Investment.....	0.03	0.10
Depreciation.....	0.06	0.15
Insurance.....	- - -	0.01
Total Cost per Acre-Inch of Irrigation Water Delivered.....	\$0.63	\$0.70

## Feed Barley

**TABLE 3. Machinery, Equipment, and Building Cost Calculations**

Machine/Vehicle	Unit		-----Variable-----			-----Fixed-----			TOTAL COST	----- ENTERPRISE -----			
			Fuel and Lube	Operation Labor & Inputs	Repair and Maint.	Hourly Lease	Deprec. and Interest	Taxes and Insurance		Resource Use per Acre	Resource Costs per Acre		TOTAL
											Variable	Fixed	
100 HP TRACTOR	2WD	\$/Hour	\$4.76	\$0.00	\$3.85	\$0.00	\$4.11	\$0.35	\$13.07	1.2518	\$10.78	\$5.58	\$16.36
140 HP TRACTOR	2WD	\$/Hour	6.66	0.00	2.60	0.00	15.23	1.64	26.13	0.1668	1.54	2.81	4.35
4-WHEELER	2WD	\$/Hour	2.27	0.00	1.28	0.00	0.19	0.01	3.75	2.3280	8.26	0.47	8.73
SWATHER-14 FT		\$/Hour	2.75	0.00	6.27	0.00	18.43	1.82	29.27	0.1430	1.29	2.90	4.19
CORRUGATOR 6-ROW		\$/Hour	0.00	0.00	1.89	0.00	4.84	0.47	7.20	0.2500	0.47	1.33	1.80
FIELD CULTIVATOR	18 FT	\$/Hour	0.00	0.00	1.11	0.00	11.42	1.12	13.65	0.1668	0.19	2.09	2.28
GRAIN DRILL	12 FT	\$/Hour	0.00	0.00	1.20	0.00	26.27	2.16	29.63	0.2500	0.30	7.11	7.41
PIPE TRAILER		\$/Hour	0.00	0.00	0.59	0.00	0.80	0.09	1.48	0.1644	0.10	0.15	0.25
PTO GRAIN AUGER	6X45 FT	\$/Hour	0.00	0.00	0.28	0.00	5.77	0.56	6.61	0.4444	0.12	2.81	2.93
ROLLER HARROW	15 FT	\$/Hour	0.00	0.00	1.60	0.00	5.24	0.51	7.35	0.1430	0.23	0.82	1.05
1/2 TON PICKUP	4WD	\$/Mile	0.07	0.00	0.00	0.00	0.24	0.05	0.36	20.0000	1.40	5.80	7.20
2 TON TRUCK		\$/Mile	0.23	0.00	0.00	0.00	0.35	0.09	0.67	1.4276	0.33	0.63	0.96
3/4 TON PICKUP	4WD	\$/Mile	0.07	0.00	0.00	0.00	0.30	0.06	0.43	20.0000	1.40	7.20	8.60
TANDEM TRUCK		\$/Mile	0.17	0.00	0.00	0.00	0.54	0.16	0.87	0.8276	0.14	0.58	0.72
CONCRETE DITCH		\$/Ac-In	0.00	0.54	0.00	0.00	0.09	0.00	0.63	5.8500	3.16	0.53	3.69
GATED PIPE		\$/Ac-In	0.00	0.39	0.04	0.00	0.25	0.02	0.70	27.1500	11.67	7.33	19.00
3000 BU GRANERY		\$/Year	0.00	0.00	66.14	0.00	412.80	35.15	514.09	0.0200	1.32	8.96	10.28
FENCES	3.0 MILES	\$/Year	0.00	0.00	0.00	0.00	1,199.24	84.44	1,283.68	0.0020	0.00	2.57	2.57
LOAFING SHED	16 X 40	\$/Year	0.00	0.00	153.80	0.00	688.00	58.58	900.38	0.0020	0.31	1.49	1.80
METAL SHOP	40 X 80	\$/Year	1,000.00	0.00	153.80	0.00	2,752.00	234.33	4,140.13	0.0020	2.31	5.97	8.28



Trade or brand names used in this publication are used only for the purpose of educational information. The information given herein is supplied with the understanding that no discrimination is intended, and no endorsement information of products by the Agricultural Research Service, Federal Extension Service, or State Cooperative Extension Service is implied. Nor does it imply approval of products to the exclusion of others which may also be suitable.

Issued in furtherance of Cooperative Extension work, Acts of May 8 and June 30, 1914, in cooperation with the U.S. Department of Agriculture, Darryld Kautzmann, Interim Director, Cooperative Extension Service, University of Wyoming, Laramie, WY 82071.

Persons seeking admission, employment, or access to programs of the University of Wyoming shall be considered without regard to race, color, national origin, sex, age, religion, political belief, disability, veteran status, and marital or familial status. Persons with disabilities who require alternative means for communication or program information (braille, large print, audiotope, etc.) should contact their local UW Extension Office. To file a complaint, write the UW Employment Practices/Affirmative Action Office, University of Wyoming, P.O. Box 3354, Laramie, Wyoming 82071-3354.