

Crop Enterprise Budget

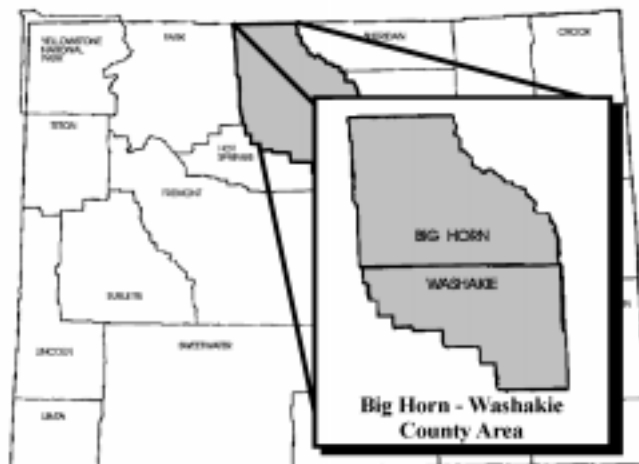
Alfalfa Establishment

Big Horn-Washakie County Area

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This enterprise budget presents estimated typical costs and returns for malting barley in the Big Horn and Washakie County area of Wyoming. Data presented are not taken from an actual farm situation. A panel of Big Horn and Washakie County producers assisted in outlining the “representative” farm situation described in the budget. Thus, the budget provides a guide to determine 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

This budget is based on an 880-acre farm that produces 265 acres of malting barley grown annually. Other enterprises included on this farm are: alfalfa establishment, 35 acres; alfalfa hay, 105 acres; sugar beets, 250 acres; corn for grain, 90 acres; and corn for silage, 90 acres. The remaining 80 acres include roadways, fence lines, and farmsteads. Owned land is valued at \$1,000 per acre irrigated and wasteland is valued at \$300 per acre.

Leased land is rented on a crop-share basis. A one-third share of gross revenue is paid to the landowner. In return, the landowner pays for one-third of the fertilizer and crop insurance for the crop and one-half the chemical cost for spring weed control. The landowner is also responsible for ownership costs associated with the land, buildings, and irrigation systems, as well as all irrigation water costs.

Labor

Labor is provided by the operator and one 12-month employee and one 8-month employee. All labor, including operator labor, is valued at \$7.33 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 70 percent of the long-term capital and 50 percent of the operating capital for this enterprise. Thirty percent of the long-term capital is borrowed at an interest rate of 8.0 percent Annual Percentage Rate (APR). Fifty percent of the operating capital is borrowed at an interest rate of 9.0 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 machinery, equipment, and buildings used in this enterprise and their 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. Tables 1 and 3 list 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 also might 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. Water provided by each irrigation system is broken down as follows: 25 percent concrete ditch, 37.5 percent dirt ditch, and 37.5 percent gated pipe (plastic). All irrigation water is delivered to the distribution network via a delivery system. This method was employed because crops normally will be rotated over all farmed acres eventually. Table 2 presents an estimated cost per acre-inch of providing irrigation water via each irrigation system.

Operations

Operations related to establishing alfalfa hay are listed in chronological order in the enterprise budget. Establishment of alfalfa hay is assumed to occur in barley stubble. As such, land and building costs are assigned to the preceding malting barley enterprise.

Ground preparation for alfalfa establishment consists of burning the barley stubble in mid-August. Alfalfa seed is drilled a few days later. A single irrigation is applied in late August, providing a total of 10 acre-inches of water per acre of alfalfa establishment.

In the following year, the newly established stand provides three cuttings of hay as outlined in the alfalfa hay budget. However no hay is harvested in the establishment year.

Enterprise Budget

Economic costs and returns for alfalfa hay 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 crop-share lease arrangement also are summarized in the budget. Costs paid and received by the tenant are listed in the tenant column. Items paid and received by the landowner 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 alfalfa hay enterprise is estimated at \$360.55 per acre. Total variable costs are estimated at \$280.58 per acre, with total fixed costs at \$181.68 per acre. The total of all costs for alfalfa hay is estimated at \$462.26 per acre, leaving a net projected return of (\$101.71) per acre. The net projected returns for the lease arrangement are (\$25.77) per acre for the landowner and (\$75.94) per acre for the tenant.

Alfalfa Establishment

Enterprise Budget Economic Costs and Returns per Acre Alfalfa Establishment - Big Horn-Washakie County Area 35 Acre Enterprise

RETURNS SECTION -----							
				--- Crop-Share ---			
				Owner- Operator 100%	Land- owner 50%	Tenant 50%	Your Return
GROSS INCOME Description	Quantity	Unit	\$/Unit	Total	Total	Total	
No Gross Receipts				\$0.00	\$0.00	\$0.00	
Total GROSS Income				\$0.00	\$0.00	\$0.00	

VARIABLE COSTS SECTION -----										
			----- M a t e r i a l s -----				Materials Total Cost	--- Crop-Share ---		
VARIABLE COST Description	Dollars per Acre LABOR MACHINERY		Description	# Units Per Acre	Unit Type	\$/unit	Per Acre	Owner- Operator	Land- owner	Your Cost
ANNUAL										
GENERAL OVERHEAD								3.79	----	3.79
OPERATOR MANAGEMENT								7.58	----	7.58
Total ANNUAL								\$11.37	\$0.00	\$11.37
ESTABLISHMENT										
BURN STUBBLE	Operation	6.58	0.28					6.86	----	6.86
PLANT ALFALFA	Operation	1.33	2.01	ALFALFA SEED	18.000 LBS	3.50	63.00	66.34	63.00	3.34
PULL DITCHES	Operation	0.17	0.23					0.40	----	0.40
PULL ENDS	Operation	0.05	0.02					0.07	----	0.07
LAY PIPE	Operation	0.80	0.19					0.99	----	0.99
DELIVERY SYSTEM		0.36	0.00	Purchased Water			2.12	2.48	2.12	0.36
CONCRETE DITCH		0.15	0.00					0.15	----	0.15
GATED PIPE		0.29	0.00					0.29	----	0.29
DIRT DITCH		0.24	0.00					0.24	----	0.24
CLOSE DITCHES	Operation	0.17	0.21					0.38	----	0.38
PICKUP PIPE	Operation	0.80	0.19					0.99	----	0.99
Total ESTABLISHMENT								\$79.19	\$65.12	\$14.07
Operating Interest							5.26	5.26	----	5.26
Total VARIABLE COST								\$95.82	\$65.12	\$30.70
GROSS INCOME minus VARIABLE COST								(\$95.82)	(\$65.12)	(\$30.70)

FIXED COSTS SECTION -----					
		--- Crop-Share ---			
FIXED COST Description	Unit	Owner- Operator	Land- owner	Tenant	Your Cost
Machinery and Equipment:					
Taxes	Acre	0.20	----	0.20	
Insurance	Acre	0.17	----	0.17	
Long Term Interest	Acre	1.83	----	1.83	
Depreciation	Acre	1.58	----	1.58	
Buildings and Improvements:					
Taxes	Acre	0.00	0.00	----	
Insurance	Acre	0.00	0.00	----	
Long Term Interest	Acre	0.00	0.00	----	
Depreciation	Acre	0.00	0.00	----	
Irrigation:					
Taxes	Acre	0.10	0.10	----	
Insurance	Acre	0.08	0.08	----	
Long Term Interest	Acre	1.39	1.39	----	
Depreciation	Acre	1.53	1.53	----	

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FIXED COSTS SECTION -----				
FIXED COST Description	Unit	--- Crop-Share ---		
		Owner-Operator	Land-owner	Tenant
Land:				
Taxes	Acre	0.00	0.00	----
Long Term Interest	Acre	0.00	0.00	----
Total FIXED Cost		\$6.87	\$3.10	\$3.77
Total of ALL Cost		\$102.69	\$68.22	\$34.47

NET PROJECTED RETURNS		(\$102.69)	(\$68.22)	(\$34.47)

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
100HP TRACTOR	2WD	\$41,730	\$23,542	\$5,354	285 Hours	5,700 Hours	2,850 Hours
200HP TRACTOR	MFD	\$77,681	\$43,824	\$9,967	380 Hours	7,600 Hours	3,800 Hours
60HP TRACTOR	2WD	\$20,349	\$11,480	\$2,611	246 Hours	4,920 Hours	2,460 Hours
DITCHER, 3 POINTV-BLADE		\$2,134	\$1,123	\$111	26 Hours	520 Hours	260 Hours
END PULLER	3 ROW	\$1,001	\$527	\$52	18 Hours	360 Hours	180 Hours
GRAIN DRILL	15 FT	\$9,148	\$4,812	\$477	51 Hours	1,020 Hours	510 Hours
PIPE TRAILER		\$1,631	\$858	\$85	158 Hours	3,160 Hours	1,580 Hours
TERRACE BLADE	8 FT	\$1,171	\$616	\$61	29 Hours	580 Hours	290 Hours
WEED BURNER		\$53	\$29	\$5	10 Hours	200 Hours	100 Hours
CONCRETE DITCH		\$37,736	\$19,177	\$619	9,971 AcIn	299,130 AcIn	149,565 AcIn
DELIVERY SYSTEM		\$77,588	\$39,430	\$1,272	39,958 AcIn	1,198,740 AcIn	599,370 AcIn
DIRT DITCH		\$20,419	\$10,377	\$335	14,952 AcIn	448,560 AcIn	224,280 AcIn
GATED PIPE		\$10,481	\$5,777	\$1,073	14,952 AcIn	299,040 AcIn	149,520 AcIn
LABOR HOUSE	#1		\$22,881	\$2,288		30 Years	15 Years
LABOR HOUSE	#2		\$38,136	\$3,814		30 Years	15 Years
MACHINE SHED	20 X 40		\$3,148	\$315		30 Years	15 Years
METAL SHOP	40 X 80		\$61,017	\$6,102		30 Years	15 Years

TABLE 2. Irrigation System Costs per Acre-Inch Delivered

	Concrete Ditch *	Dirt Ditch*	Gated Pipe*
Variable Costs			
Repair and Maintenance (Off-Farm)	\$0.0128	\$0.0253	\$0.0165
Owner Operation Labor	0.0107	0.0107	0.0252
Purchased Water	0.0500	0.0751	0.0751
Fixed Costs			
Taxes	0.0039	0.0032	0.0023
Interest on Investment	0.0541	0.0442	0.0326
Depreciation.....	0.0628	0.0547	0.0262
Insurance	0.0032	0.0027	0.0019
Total Cost per Acre-Inch of Irrigation Water Delivered	\$0.1975	\$0.2159	\$0.1798

* Each distribution system is assumed to receive irrigation water from a central delivery system. This delivery system (buried pipeline, concrete ditch, moss catchers, and tail ditch) has been allocated to each of the distribution systems according to its share of the total irrigation water applied.

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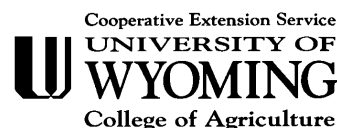
TABLE 3. Alfalfa Establishment Costs Per Acre of Growing Alfalfa

	Owner- Operator
ESTABLISHMENT COSTS Per Acre of Alfalfa Establishment	\$102.69
Assuming a 3-year stand life gives:	
\$102.69 ÷ 3-year stand life = \$34.23/year depreciation cost	
DEPRECIATION COST Allocated to Growing Alfalfa	\$ 34.23
<u>LONG-TERM INTEREST COST Allocated to Growing Alfalfa</u>	<u>2.57</u>
TOTAL ESTABLISHMENT COST Allocated to Growing Alfalfa	\$ 36.80
 Where 105 acres of growing alfalfa are maintained each year, the Alfalfa Establishment Cost Per Acre of Growing Alfalfa becomes:	 \$ 0.3505

Alfalfa Establishment

TABLE 4. Machinery, Equipment, and Building Cost Calculations

		RESOURCE COST PER UNIT OF USE							ENTERPRISE				
		-----Variable-----				-----Fixed-----							
		Fuel and Lube	Operation and Labor Inputs	Repair and Maint.	Hourly Lease	Deprec. and Interest	Taxes and Insurance	TOTAL COST	Resource Use per Acre	Resource Costs per Acre-----			
Machine/Vehicle	Unit									Variable	Fixed	TOTAL	
100HP TRACTOR	2WD	\$/Hr	\$5.63	\$0.00	\$2.50	\$0.00	\$7.25	\$0.80	\$16.18	0.1666	\$1.35	\$1.34	\$2.69
200HP TRACTOR	MFD	\$/Hr	11.27	0.00	6.20	0.00	10.12	1.12	28.71	0.0400	0.70	0.45	1.15
60HP TRACTOR	2WD	\$/Hr	3.38	0.00	1.05	0.00	4.09	0.45	8.97	0.1063	0.47	0.48	0.95
DITCHER, 3 POINT	V-BLADE	\$/Hr	0.00	0.00	0.53	0.00	3.84	0.42	4.79	0.0200	0.01	0.09	0.10
END PULLER	3 ROW	\$/Hr	0.00	0.00	0.08	0.00	2.61	0.28	2.97	0.0063	0.00	0.02	0.02
GRAIN DRILL	15 FT	\$/Hr	0.00	0.00	5.29	0.00	6.30	0.69	12.28	0.1666	0.88	1.16	2.04
PIPE TRAILER		\$/Hr	0.00	0.00	1.01	0.00	0.47	0.05	1.53	0.1000	0.10	0.05	0.15
TERRACE BLADE	8 FT	\$/Hr	0.00	0.00	0.31	0.00	1.89	0.21	2.41	0.0200	0.01	0.04	0.05
WEED BURNER		\$/Hr	1.00	0.00	0.00	0.00	0.48	0.03	1.51	0.2857	0.29	0.15	0.44
CONCRETE DITCH		\$/Ac-In	0.00	0.04	0.02	0.00	0.36	0.02	0.44	2.6500	0.16	1.01	1.17
DELIVERY SYSTEM		\$/Ac-In	0.00	0.20	0.03	0.00	0.11	0.00	0.34	10.6000	2.44	1.17	3.61
DIRT DITCH		\$/Ac-In	0.00	0.03	0.03	0.00	0.16	0.00	0.22	3.9700	0.24	0.64	0.88
GATED PIPE		\$/Ac-In	0.00	0.07	0.01	0.00	0.05	0.00	0.13	3.9700	0.32	0.20	0.52
LABOR HOUSE	#1	\$/Year	1,200.00	145.40	1,000.00	0.00	3,148.42	273.22	5,767.04	0.0011	2.67	3.89	6.56
LABOR HOUSE	#2	\$/Year	1,200.00	145.40	1,000.00	0.00	5,247.51	455.39	8,048.30	0.0011	2.67	6.48	9.15
MACHINE SHED	20 X 40	\$/Year	100.00	36.35	100.00	0.00	433.16	37.59	707.10	0.0011	0.27	0.53	0.80
METAL SHOP	40 X 80	\$/Year	720.00	87.24	100.00	0.00	8,395.94	728.61	10,031.79	0.0011	1.03	10.37	11.40



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