

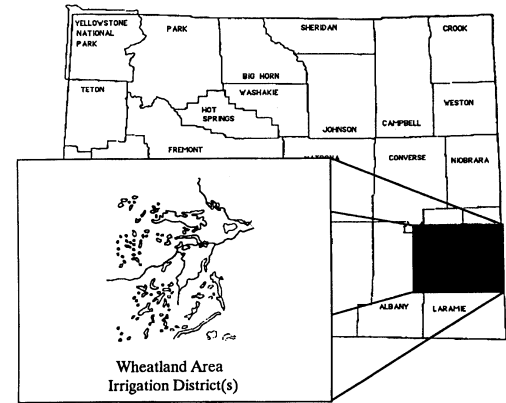
Crop Enterprise Budget

Alfalfa Hay Baled, Wheatland Area

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This enterprise budget presents estimated typical costs and returns for alfalfa hay in the Wheatland area of Wyoming. It should be used only as a guide. The data presented are not taken from an actual farm. The major assumptions used in this budget are presented below.

LAND

The budget is based on a 500-acre farm, with 100 acres of alfalfa hay grown each year. Other enterprises included on this farm are: alfalfa establishment, 17 acres; sugar beets, 100 acres; dry beans, 75 acres; corn for grain, 62.5 acres; corn for silage, 62.5 acres; and setaside program, 23 acres. The remaining 60 acres include roadways, fence lines, and farmsteads. Owned land is valued at \$750 per acre for flood-irrigated land and \$850 per acre for center pivot-irrigated land. Leased land is rented on a crop-share basis. For alfalfa hay, a 50 percent share of gross revenue is paid to the landowner. In turn, the landowner pays for all purchased irrigation water, 50 percent of the fertilizer applied, and provides \$10 per ton toward baling and stacking the hay produced. This is because baling and stacking hay costs less than \$10 per ton.

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 is 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 9.75 percent APR (Annual Percentage Rate). Fifty percent of the operating capital is borrowed at an interest rate of 9 percent APR. The interest rates used here are for short-term planning. Real interest rates should be used for accurate long-term planning.

ESTABLISHMENT COSTS

This budget estimates the cost of producing alfalfa hay from an existing alfalfa stand. Costs of establishing the alfalfa stand are estimated in a separate alfalfa establishment budget. Establishment costs are included in the alfalfa hay budget as an alfalfa stand charge, found in the fixed cost section.

Establishment costs are estimated assuming the alfalfa stand is established with a nurse crop of oat hay at the rate of 17 acres each year.

MACHINERY, EQUIPMENT, AND BUILDINGS

A complete list of 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: 30 percent center pivot, 25 percent concrete ditch and tubes, and 45 percent gated pipe (plastic and aluminum, 50 percent each). This method was employed because crops will normally be rotated onto all farmed land over time. Table 2 estimates the cost per acre-inch for providing irrigation water with each irrigation system.

The alfalfa hay budget also includes a charge for corrugation, a charge for cleaning dirt cross-ditches, and charges for laying out and picking up gated pipe before and after each cutting of hay.

OPERATIONS

Operations related to alfalfa hay production are listed in chronological order in the enterprise budget. The crop is fertilized in March. Irrigation is usually started a month thereafter with a total of four irrigations per growing season. A total of 43 acre-inches of water is delivered per acre of growing alfalfa.

Typically, three cuttings of hay are harvested; in early June, mid July, and early September. The hay is cut and baled in 1,000 pound round bales. These are then hauled and stacked within a mile of the field. The first two cuttings yield 2 tons per acre, while the third yields 1 ton per acre.

ENTERPRISE BUDGET

Economic costs and returns for alfalfa hay production 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 are also summarized in the budget. Costs paid in whole or in part by the landowner are listed in the landowner column. The tenant column describes the tenant's share of the appropriate cost and return items. 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 \$350 per acre. Total variable costs are estimated at \$147.83 per acre, with total fixed costs at \$164.23 per acre. The total of all costs for alfalfa hay is estimated at \$312.06 per acre, leaving a net projected return of \$37.94 per acre. The net projected returns for the share-lease arrangement are (\$15.96) per acre for the landowner and \$53.90 per acre for the tenant. As estimated in the alfalfa establishment budget, the cost of establishing alfalfa totals \$11.92 per acre of growing alfalfa each year. These costs are estimated for a six-year stand life for 100 acres of growing alfalfa.

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
140 HP TRACTOR MFD	\$59,492	\$33,563	\$7,634	496 Hours	9,920 Hours	4,960 Hours
70 HP TRACTOR 2WD	\$27,245	\$15,370	\$3,496	323 Hours	6,460 Hours	3,230 Hours
SWATHER-14 FT	\$34,519	\$18,219	\$1,919	100 Hours	2,000 Hours	1,000 Hours
FERTILIZER SPREDRELEASED	----	----	----	42 Hours	504 Hours	252 Hours
FRONT LOADER 2-TON	\$3,679	\$1,935	\$192	132 Hours	2,640 Hours	1,320 Hours
PIPE TRAILER 30 FT	\$1,416	\$745	\$74	47 Hours	940 Hours	470 Hours
ROUND BALE SPIKE	\$1,044	\$549	\$54	112 Hours	2,240 Hours	1,120 Hours
ROUND BALER	\$14,686	\$7,799	\$912	112 Hours	2,016 Hours	1,008 Hours
V-DITCHER 8 FT	\$1,902	\$1,001	\$99	6 Hours	120 Hours	60 Hours
WEED BURNER	\$53	\$28	\$3	10 Hours	200 Hours	100 Hours
1/2 TON PICKUP 2WD	\$14,279	\$8,967	\$3,656	10,000 Miles	75,000 Miles	37,500 Miles
1/2 TON PICKUP 4WD	\$16,190	\$10,167	\$4,145	10,000 Miles	75,000 Miles	37,500 Miles
2 TON TRUCK #1	\$11,605	\$6,055	\$505	2,276 Miles	50,072 Miles	25,036 Miles
2 TON TRUCK #2	\$9,494	\$4,890	\$287	2,250 Miles	56,250 Miles	28,125 Miles
CENTER PIVOT	\$29,337	\$16,171	\$3,004	2,929 AcIns	43,935 AcIns	21,968 AcIns
CONCRETE DITCH	\$21,814	\$10,907	\$0	3,975 AcIns	99,375 AcIns	49,688 AcIns
GATED PIPE	\$21,422	\$11,808	\$2,194	7,233 AcIns	108,495 AcIns	54,248 AcIns
GRND WATER WELL	\$10,530	\$5,424	\$318	969 AcIns	24,225 AcIns	12,113 AcIns
METAL SHOP 20 X 20		\$10,000	\$1,000		30 Years	15 Years
POLE BARN 40 X 80		\$16,500	\$1,650		30 Years	15 Years

TABLE 2. Irrigation System Costs per Acre-Inch Delievered

	Center Pivot	Concrete Ditch	Gated Pipe	Ground Water Well
VARIABLE COSTS	=====	=====	=====	=====
Fuel Cost	\$0.81	\$----	\$----	\$2.22
Repair and Maintenance (off-farm)	0.69	----	0.06	0.27
Owner Operation Labor	0.05	----	----	----
Hired Operation Labor	----	0.29	0.09	----
Purchased Water	----	0.64	0.64	----
FIXED COSTS				
Taxes 0.07	0.03	0.04	0.11	
Interest on Investment	0.54	0.24	0.28	0.95
Depreciation	0.68	0.24	0.32	0.55
Insurance	0.05	0.02	0.02	0.07
=====	=====	=====	=====	=====
TOTAL COST PER ACRE-INCH DELIVERED	\$2.89	\$1.46	\$1.45	\$4.17

Alfalfa Hay, Baled

Enterprise Budget Economic Costs and Returns per Acre Alfalfa Hay, Baled - Wheatland Area 100-Acre Enterprise

RETURNS SECTION -----							
GROSS INCOME Description	Quantity	Unit	\$/Unit	Owner-	--- Crop-Share ---		
				Operator	Land-	Tenant	Your
				100%	50%	50%	Return
				Total	Total	Total	
ALFALFA HAY, BALED	5.00	TON	70.00	\$350.00	\$175.00	\$175.00	
Total GROSS Income				\$350.00	\$175.00	\$175.00	

VARIABLE COSTS SECTION -----											
VARIABLE COST Description	Dollars per Acre		----- M a t e r i a l s -----				Materials	Owner-	--- Crop-Share ---		Your
	LABOR	MACHINERY	Description	# Units	Unit	\$/unit	Total Cost		Land-	Tenant	
				Per Acre	Type		Per Acre	Operator	owner		Cost
ANNUAL											
METAL SHOP - 20 X 20								0.50	----	0.50	
POLE BARN - 40 X 80								0.28	----	0.28	
1/2 TON PICKUP - 2WD	1.24	1.07						2.31	----	2.31	
1/2 TON PICKUP - 4WD	1.24	1.21						2.45	----	2.45	
GENERAL OVERHEAD								6.07	----	6.07	
OPERATOR MANAGEMENT								12.15	----	12.15	
Total ANNUAL								23.76	0.00	23.76	
GROW ALFALFA											
CLEAN DITCHES Operation	0.26	0.02						0.28	----	0.28	
SPREAD FERTILIZER Operation	0.59	0.40	FERTILIZER SPREDR	1.000	Acre	0.50	12.11	13.10	6.06	7.04	
			11-52-0	0.040	TON	264.00					
			0-0-60	0.005	TON	210.00					
OPEN DITCHES Operation	0.30	0.22						0.52	----	0.52	
LAY GATED PIPE Operation	0.08	0.03						0.11	----	0.11	
CANVAS DAMS							0.65	0.65	----	0.65	
CENTER PIVOT	0.11	3.48						3.59	----	3.59	
GRND WATER WELL		1.97						1.97	----	1.97	
CONCRETE DITCH	0.86	0.00	Purchased Water				1.92	2.78	1.92	0.86	
GATED PIPE	0.52	0.33	Purchased Water				3.50	4.35	3.50	0.85	
CENTER PIVOT	0.11	3.48						3.59	----	3.59	
GRND WATER WELL		1.97						1.97	----	1.97	
CONCRETE DITCH	0.86	0.00	Purchased Water				1.92	2.78	1.92	0.86	
GATED PIPE	0.52	0.33	Purchased Water				3.50	4.35	3.50	0.85	
Total GROW ALFALFA								40.04	16.90	23.14	
HARVEST 1ST CUT											
PIKUP GATED PIPE Operation	0.08	0.03						0.11	----	0.11	
SWATH Operation	1.97	3.80						5.77	----	5.77	
BALE - 2 TON/AC Operation	1.97	5.08	BALING TWINE	0.126	BOX	15.50	1.95	9.00	13.36	-4.36	
HAUL BALES Operation	0.12	0.15						0.27	----	0.27	
HAUL BALES Operation	0.12	0.15						0.27	----	0.27	
STACK BALES Operation	1.97	2.50						4.47	6.64	-2.17	
Total HARVEST 1ST CUT								19.89	20.00	0.11	
GROW ALFALFA											
LAY GATED PIPE Operation	0.08	0.03						0.11	----	0.11	
CENTER PIVOT	0.11	3.48						3.59	----	3.59	
GRND WATER WELL		1.97						1.97	----	1.97	
CONCRETE DITCH	0.86	0.00	Purchased Water				1.92	2.78	1.92	0.86	
GATED PIPE	0.52	0.33	Purchased Water				3.50	4.35	3.50	0.85	
Total GROW ALFALFA								12.80	5.42	7.38	
HARVEST 2ND CUT											
PIKUP GATED PIPE Operation	0.08	0.03						0.11	----	0.11	
SWATH Operation	1.97	3.80						5.77	----	5.77	
BALE - 2 TON/AC Operation	1.97	5.08	BALING TWINE	0.126	BOX	15.50	1.95	9.00	13.36	4.36	
HAUL BALES Operation	0.12	0.15						0.27	----	0.27	
HAUL BALES Operation	0.12	0.15						0.27	----	0.27	
STACK BALES Operation	1.97	2.50						4.47	6.64	2.17	
Total HARVEST 2ND CUT								19.89	20.00	0.11	
GROW ALFALFA											
LAY GATED PIPE Operation	0.08	0.03						0.11	----	0.11	
CENTER PIVOT	0.11	3.48						3.59	----	3.59	

Wheatland Area, June 1992

Alfalfa Hay, Baled

GRND WATER WELL		1.97					1.97	----	1.97	
CONCRETE DITCH	0.86	0.00	Purchased Water			1.92	2.78	1.92	0.86	
VARIABLE COSTS SECTION -----										
----- M a t e r i a l s -----										
VARIABLE COST Description	Dollars	per Acre	Description	# Units	Unit		Materials	--- Crop-Share ---		
	LABOR	MACHINERY		Per Acre	Type	\$/unit	Total Cost	Owner-	Land-	Your
							Per Acre	Operator	owner	Cost
=====	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====
GATED PIPE	0.52	0.33	Purchased Water				3.50	4.35	3.50	0.85

Total GROW ALFALFA								12.80	5.42	7.38

HARVEST 3RD CUT										
PIKUP GATED PIPE Operation	0.08	0.03						0.11	----	0.11
SWATH Operation	1.48	2.85						4.33	----	4.33
BALE - 1 TON/AC Operation	1.97	5.08	BALING TWINE	0.063	BOX	15.50	0.98	8.03	6.42	1.61
HAUL BALES Operation	0.12	0.15						0.27	----	0.27
HAUL BALES Operation	0.12	0.15						0.27	----	0.27
STACK BALES Operation	1.97	2.50						4.47	3.58	0.89

Total HARVEST 3RD CUT								17.48	10.00	7.48

Operating Interest								1.17	----	1.17
=====										
Total VARIABLE COST								\$147.83	\$77.74	\$70.09

GROSS INCOME minus VARIABLE COST								\$202.17	\$97.26	\$104.91

FIXED COSTS SECTION -----										
----- Crop-Share ---										
FIXED COST Description	Unit	Owner-	Land-	Tenant	Your					
=====	=====	=====	=====	=====	=====					
Machinery and Equipment:										
Taxes	Acre	3.82	----	3.82						
Insurance	Acre	3.82	----	3.82						
Long-term Interest	Acre	23.38	----	23.38						
Depreciation	Acre	19.99	----	19.99						
Buildings and Improvements:										
Taxes	Acre	0.64	0.64	----						
Insurance	Acre	0.11	0.11	----						
Long-term Interest	Acre	1.50	1.50	----						
Depreciation	Acre	0.95	0.95	----						
Irrigation:										
Taxes	Acre	1.66	1.66	----						
Insurance	Acre	0.91	0.91	----						
Long-term Interest	Acre	16.82	16.82	----						
Depreciation	Acre	17.79	17.79	----						
Land:										
Taxes	Acre	8.78	8.78	----						
Long-term Interest	Acre	52.13	52.13	----						
Alfalfa Stand:										
Long-term Interest	Acre	3.05	3.05	----						
Depreciation	Acre	8.87	8.87	----						
=====										
Total FIXED Cost		\$164.23	\$113.22	\$51.01						

Total of ALL Cost		\$312.06	\$190.96	\$121.10						
=====										
NET PROJECTED RETURNS		\$37.94	(\$15.96)	\$53.90						
=====										

TABLE 3. Machinery, Equipment, and Building Cost Calculations

		RESOURCE COST PER UNIT OF USE								ENTERPRISE			
		-----Variable-----				-----Fixed-----				-----Costs per Acre-----			
Machine/Vehicle	Unit	Fuel and Lube	Operation Labor & Inputs	Repair and Maint.	Hourly Lease	Deprec. and Interest	Taxes and Insurance	TOTAL COST	Resource Use per Acre	Variable	Fixed	TOTAL	
140 HP TRACTOR	MFD	\$/Hour	7.24	0.00	6.20	0.00	6.66	1.17	21.27	0.9999	13.44	7.83	21.27
70 HP TRACTOR	2WD	\$/Hour	3.62	0.00	1.85	0.00	4.69	0.82	10.98	1.1925	6.52	6.57	13.09
SWATHER-14 FT		\$/Hour	7.06	0.00	4.35	0.00	17.97	3.15	32.53	0.9166	10.46	19.36	29.82
FERTILIZER SPREDR	LEASED	\$/Hour	0.00	0.00	0.00	5.00	0.00	0.00	5.00	0.1000	0.50	0.00	0.50
FRONT LOADER	2-TON	\$/Hour	0.00	0.00	1.98	0.00	1.45	0.25	3.68	0.9999	1.98	1.70	3.68
PIPE TRAILER	30 FT	\$/Hour	0.00	0.00	0.33	0.00	1.56	0.27	2.16	0.0426	0.01	0.08	0.09
ROUND BALE SPIKE		\$/Hour	0.00	0.00	0.47	0.00	0.48	0.09	1.04	0.9999	0.47	0.57	1.04
ROUND BALER		\$/Hour	0.00	0.00	6.39	0.00	7.21	1.20	14.80	0.9999	6.39	8.41	14.80
V-DITCHER	8 FT	\$/Hour	0.00	0.00	0.26	0.00	16.45	2.88	19.59	0.0500	0.01	0.97	0.98
WEED BURNER		\$/Hour	0.93	0.00	0.00	0.00	0.53	0.05	1.51	0.0240	0.02	0.01	0.03
1/2 TON PICKUP	2WD	\$/Mile	0.10	0.00	0.06	0.00	0.26	0.07	0.49	6.8966	1.10	2.28	3.38
1/2 TON PICKUP	4WD	\$/Mile	0.10	0.00	0.07	0.00	0.29	0.08	0.54	6.8966	1.17	2.55	3.72
2 TON TRUCK	#1	\$/Mile	0.24	0.00	0.20	0.00	0.48	0.21	1.13	0.9999	0.44	0.69	1.13
2 TON TRUCK	#2	\$/Mile	0.24	0.00	0.20	0.00	0.37	0.17	0.98	0.9999	0.44	0.54	0.98
CENTER PIVOT		\$/Ac-In	0.81	0.05	0.87	0.00	1.76	0.12	3.61	8.9200	15.43	16.77	32.20
CONCRETE DITCH		\$/Ac-In	0.00	0.93	0.00	0.00	0.91	0.06	1.90	12.0800	11.23	11.72	22.95
GATED PIPE		\$/Ac-In	0.00	0.73	0.08	0.00	0.99	0.08	1.88	21.9600	17.79	23.50	41.29
GRND WATER WELL		\$/Ac-In	2.22	0.00	0.52	0.00	2.58	0.23	5.55	2.9600	8.11	8.32	16.43
METAL SHOP	20 X 20	\$/Year	720.00	0.00	140.37	0.00	1,545.75	131.63	2,537.75	0.0020	1.72	3.35	5.07
POLE BARN	40 X 80	\$/Year	360.00	0.00	140.37	0.00	2,550.49	217.20	3,268.06	0.0020	1.00	5.54	6.54

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