Crop Enterprise Budget
Alfalfa Hay, Baled, Riverton Area

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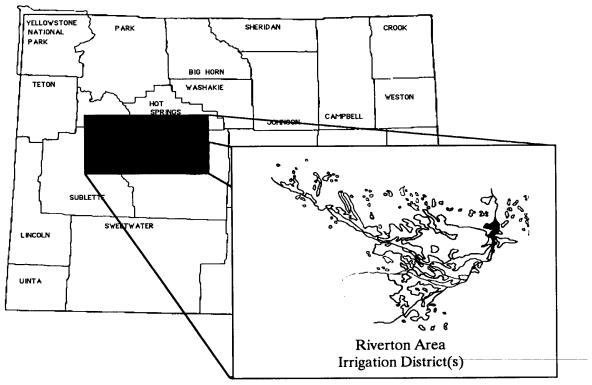

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This enterprise budget presents estimated typical costs and returns for alfalfa hay in the Riverton area of Wyoming. Data presented are not taken from an actual farm situation. A panel of Fremont County producers assisted in outlining the "representative" 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 200 acres of alfalfa hay grown each year. Other enterprises included on this farm are: alfalfa establishment, 40 acres; dry beans, 40 acres; sugar beets, 120 acres; feed barley, 50 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.

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 an oat and field pea companion (nurse) crop at the rate of 40 acres each year.

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 alfalfa hay are listed in chronological order in the enterprise budget. Ground preparation begins in early March, including stand fertilization. Irrigation usually starts the first of May, with a total of four irrigations applied over the growing season. A total of 56 acre-inches of water is delivered per acre of growing alfalfa.

Typically three cuttings of hay are harvested: in mid June, late July, and early September. The first two cuttings of hay are cut and custom baled in large-square bales. These bales are then hauled and stacked within a mile of the field. The third cutting is cut, baled in small square bales, and custom stacked. The first two cuttings yield two tons per acre each, while the third yields one ton per acre.

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 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 alfalfa hay enterprise is estimated at $336.95 per acre. Total variable costs are estimated at $170.12 per acre, with total fixed costs at $122.27 per acre. The total of all costs for alfalfa hay is estimated at $292.39 per acre, leaving a net projected return of $44.56 per acre. The net projected returns for the lease arrangement are ($31.06) per acre for the landowner and $64.37 per acre for the tenant. As estimated in the alfalfa establishment budget, the cost of establishing the alfalfa stand totals $21.48 per acre of growing alfalfa each year. These costs are estimated for a five year stand life assuming 40 acres of alfalfa establishment each year.

Enterprise Budget
Economic Costs and Returns per Acre
Alfalfa Hay, Baled - Riverton Area
200 Acre Enterprise

RETURNS SECTION

GROSS INCOME Description	Quantity	Unit	$/Unit	Owner-Operator 100% Total	Crop-Share: Land-owner 0% Total	Crop-Share: Tenant 100% Total	Your Return
ALFALFA HAY	5.00	TON	67.39	$336.95	$0.00	$336.95	
CASH LAND RENT	1.00	ACRE	75.00	----	75.00	0.00	
Total GROSS Income				$336.95	$75.00	$336.95	

VARIABLE COSTS SECTION

VARIABLE COST Description	Dollars per Acre LABOR	MACHINERY	Materials Description	# Units Per Acre	Unit Type	$/unit	Total Cost Per Acre	Crop-Share: Owner-Operator	Land-owner	Tenant	Your Cost
ANNUAL											
METAL SHOP								2.30	----	2.30	
LOAFING SHED								0.30	----	0.30	
4-WHEELER	0.74	1.31						2.05	----	2.05	
1/2 TON PICKUP - 2WD	1.08	0.35						1.43	----	1.43	
1/2 TON PICKUP - 4WD	1.08	0.35						1.43	----	1.43	
CASH LAND RENT							75.00	----	----	75.00	
GENERAL OVERHEAD								6.30	----	10.05	
OPERATOR MANAGEMENT								12.60	----	20.10	
Total ANNUAL								$26.41	$0.00	$112.66	
GROW ALFALFA											
CUSTOM FERTILIZE 18-46-0							25.00	25.00	----	25.00	
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	0.57		Purchased Water				0.78	1.35	0.78	0.57	
GATED PIPE	1.40		Purchased Water				3.62	5.02	3.62	1.40	
CONCRETE DITCH	0.57		Purchased Water				0.78	1.35	0.78	0.57	
GATED PIPE	1.40		Purchased Water				3.62	5.02	3.62	1.40	
Total GROW ALFALFA								$42.06	$8.80	$33.26	
HARVEST 1ST CUT											
PIKUP GATED PIPE Operation	0.46	0.25						0.71	----	0.71	
SWATH Operation	1.08	1.80						2.88	----	2.88	
CUSTOM BALE LRG-SQR							12.50	12.50	----	12.50	
HAUL/STACK BALES Operation	4.74	9.93						14.67	----	14.67	
Total HARVEST 1ST CUT								$30.76	$0.00	$30.76	
GROW ALFALFA											
CUSTOM SPRAY INSECTS							9.00	9.00	----	9.00	
LAY GATED PIPE Operation	0.46	0.25						0.71	----	0.71	
CONCRETE DITCH	0.57		Purchased Water				0.78	1.35	0.78	0.57	
GATED PIPE	1.40		Purchased Water				3.62	5.02	3.62	1.40	
Total GROW ALFALFA								$16.08	$4.40	$11.68	
HARVEST 2ND CUT											
PIKUP GATED PIPE Operation	0.46	0.25						0.71	----	0.71	
SWATH Operation	1.08	1.80						2.88	----	2.88	
CUSTOM BALE LRG-SQR							12.50	12.50	----	12.50	
HAUL/STACK BALES Operation	4.74	9.93						14.67	----	14.67	
Total HARVEST 2ND CUT								$30.76	$0.00	$30.76	
GROW ALFALFA											
LAY GATED PIPE Operation	0.46	0.25						0.71	----	0.71	
CONCRETE DITCH	0.57		Purchased Water				0.78	1.35	0.78	0.57	
GATED PIPE	1.40		Purchased Water				3.62	5.02	3.62	1.40	
Total GROW ALFALFA								$7.08	$4.40	$2.68	

VARIABLE COSTS SECTION

VARIABLE COST Description	Dollars per Acre LABOR	MACHINERY	Materials Description	# Units Per Acre	Unit Type	$/unit	Materials Total Cost Per Acre	Crop-Share Owner-Operator	Crop-Share Land-owner	Crop-Share Tenant	Your Cost
HARVEST 3RD CUT											
PIKUP GATED PIPE	Operation 0.46	0.25						0.71	----	0.71	
SWATH	Operation 0.77	1.29						2.06	----	2.06	
BALE - 1 TON/AC	Operation 1.97	3.77	BALING TWINE	0.05	Box	21.63	1.12	6.86	----	6.86	
CSTM STACK BALES	SM-SQR						6.25	6.25	----	6.25	
Total HARVEST 3RD CUT								$15.88	$0.00	$15.88	
OPERATING INTEREST							1.09	1.09	----	1.09	
Total VARIABLE COST								$170.12	$17.60	$238.77	
GROSS INCOME minus VARIABLE COST								$166.83	$57.40	$98.18	

FIXED COSTS SECTION

FIXED COST Description	Unit	Crop-Share Owner-Operator	Crop-Share Land-owner	Crop-Share Tenant	Your Cost
Machinery and Equipment:					
Taxes	Acre	1.76	----	1.76	
Insurance	Acre	1.70	----	1.70	
Long Term Interest	Acre	13.30	----	13.30	
Depreciation	Acre	17.05	----	17.05	
Buildings and Improvements:					
Taxes	Acre	0.52	0.52	----	
Insurance	Acre	0.24	0.24	----	
Long Term Interest	Acre	4.98	4.98	----	
Depreciation	Acre	4.30	4.30	----	
Irrigation:					
Taxes	Acre	0.60	0.60	----	
Insurance	Acre	0.28	0.28	----	
Long Term Interest	Acre	5.08	5.08	----	
Depreciation	Acre	7.70	7.70	----	
Land:					
Taxes	Acre	4.31	4.31	----	
Long Term Interest	Acre	38.98	38.98	----	
Alfalfa Stand:					
Long-term Interest	Acre	5.28	5.28	----	
Depreciation	Acre	16.20	16.20	----	
Total FIXED Cost		$122.27	$88.46	$33.81	
Total of ALL Cost		$292.39	$106.06	$272.58	
NET PROJECTED RETURNS		$44.56	($31.06)	$64.37	

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
FRONT LOADER	2-TON	$4,014	$2,112	$209	375 Hours	7,500 Hours	3,750 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 TWINE BALER	3 AC/HR	$12,860	$6,743	$626	80 Hours	1,600 Hours	800 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
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

TABLE 3. Machinery, Equipment, and Building Cost Calculations

Machine/Vehicle		Unit	Variable: Fuel and Lube	Variable: Operation Labor & Inputs	Variable: Repair and Maint.	Variable: Hourly Lease	Fixed: Deprec. and Interest	Fixed: Taxes and Insurance	TOTAL COST	ENTERPRISE: Resource Use per Acre	Resource Costs per Acre: Variable	Resource Costs per Acre: Fixed	Resource Costs per Acre: TOTAL
100 HP TRACTOR	2WD	$/Hour	$4.76	$0.00	$3.85	$0.00	$4.11	$0.35	$13.07	2.4299	$20.92	$10.84	$31.76
4-WHEELER	2WD	$/Hour	2.27	0.00	1.28	0.00	0.19	0.01	3.75	0.5820	2.07	0.12	2.19
SWATHER-14 FT		$/Hour	2.75	0.00	6.27	0.00	18.43	1.82	29.27	0.5429	4.90	10.99	15.89
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
FRONT LOADER	2-TON	$/Hour	0.00	0.00	4.97	0.00	0.67	0.07	5.71	1.6000	7.95	1.18	9.13
PIPE TRAILER		$/Hour	0.00	0.00	0.59	0.00	0.80	0.09	1.48	0.2466	0.15	0.22	0.37
PTO TWINE BALER		$/Hour	0.00	0.00	4.63	0.00	10.21	0.99	15.83	0.3333	1.54	3.73	5.27
1/2 TON PICKUP	4WD	$/Mile	0.07	0.00	0.00	0.00	0.24	0.05	0.36	5.0000	0.35	1.45	1.80
2 TON TRUCK		$/Mile	0.23	0.00	0.00	0.00	0.35	0.09	0.67	2.7060	0.62	1.19	1.81
3/4 TON PICKUP	4WD	$/Mile	0.07	0.00	0.00	0.00	0.30	0.06	0.43	5.0000	0.35	1.80	2.15
TANDEM TRUCK		$/Mile	0.17	0.00	0.00	0.00	0.54	0.16	0.87	1.3332	0.23	0.93	1.16
CONCRETE DITCH		$/Ac-In	0.00	0.54	0.00	0.00	0.09	0.00	0.63	10.0000	5.40	0.90	6.30
GATED PIPE		$/Ac-In	0.00	0.39	0.04	0.00	0.25	0.02	0.70	46.3200	19.92	12.51	32.43
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

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