Crop Enterprise Budget
Alfalfa Hay, Baled, Powell Area

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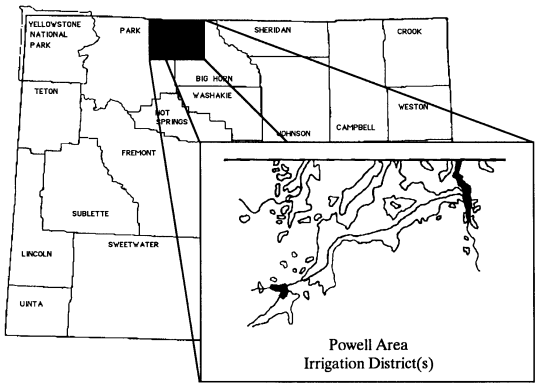

The enterprise budget presented in this report estimates typical costs and returns for alfalfa hay production in the Powell area of Wyoming. It should only be used as a guide; it is not representative of any particular farm. The major assumptions used in this budget are presented below.

LAND

The budget is based on a 600 acre farm, with 30 acres of alfalfa hay each year. Other enterprises included on this farm are: malting barley, 230 acres; alfalfa establishment, 10 acres; dry beans, 90 acres; and sugar beets, 240 acres. The farm operator owns 200 acres and leases 400 acres. Owned land is valued at $900 per acre and leased land is rented on a crop share basis. A one-third share of gross revenue is paid to the land owner. In turn, the land owner pays for one-third of the fertilizer and crop insurance for the crop. The land owner is also responsible for the costs associated with land, water and chemical for weed control on ditches and roads.

LABOR

Labor on this farm is provided by the operator and two full-time employees. All labor, including operator labor, is valued at $5.50 per hour. However, operator labor is a non-cash cost. Some part-time labor may be used on the farm for labor intensive operations like harvest.

CAPITAL

The operator provides 75% of the long term capital and 20% of the operating capital for this enterprise. Twenty-five percent of the long term capital is borrowed at an interest rate of 9.58% APR (Annual Percentage Rate). Eighty percent of the operating capital is borrowed at an interest rate of 9.92% 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 enterprise budget estimates the cost of alfalfa hay production. The cost of establishing the alfalfa stand is estimated in an alfalfa establishment budget. Establishment costs are included in this enterprise budget as a perennial crop charge in the fixed cost section.

Establishment costs are estimated assuming the stand is established with a nurse crop of malting barley at the rate of 10 acres each year. All costs of establishing a stand of alfalfa are presented in Table 1.

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 2. 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 2 and 3 may also be used in other enterprises on the farm.

OPERATIONS

Operations related to production of the alfalfa hay crop are listed in chronological order in the enterprise budget. Alfalfa is fertilized early in

the spring and irrigated as soon as possible thereafter. Typically, three cuttings are harvested: in mid June, late July, and late September.

The hay is cut and baled in small square bales using owned equipment. However, the bales are stacked by a custom operator. Only the final cutting is assumed to be raked to aid drying. The first two cuttings yield two tons per acre, with the third yields one ton per acre.

ENTERPRISE BUDGET

Economic costs and returns of alfalfa hay production are summarized by operation in the enterprise budget. Costs are broken down by stage of production. General overhead has been calculated at 5% of all cash costs, while operator management is calculated at 10%.

Costs and returns for the crop share-lease arrangement are also summarized in the budget. Costs paid in whole or in part by the land owner are listed in the third column from the right. The second column from the right 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 $357.25 per acre. Total variable costs are estimated at $196.58 per acre, with total fixed costs at $215.27 per acre. The total of all costs for alfalfa hay is estimated at $411.85 per acre, leaving a net projected return of ($54.60) per acre. The net projected returns for the share-lease arrangement are $8.23 per acre for the landowner and ($62.82) per acre for the tenant. As shown in Table 1, the cost of establishing the alfalfa stand totals $41.91 per acre of growing alfalfa each year. These costs are spread over a three year stand life for 30 acres of growing alfalfa.

Economic Costs and Returns
Alfalfa Hay, Baled - Powell Area
30 Acre Enterprise

RETURNS SECTION

GROSS INCOME Description	Quantity	Unit	$/Unit	Owner-Operator 100% Total	Land-owner 50% Total	Tenant 50% Total
ALFALFA HAY - BALED	5.00	ton	71.45	$357.25	$178.63	$178.62
Total GROSS Income				$357.25	$178.63	$178.62

VARIABLE COSTS SECTION

VARIABLE COST Description	Dollars per Acre LABOR	MACHINERY	Materials # Units Per Acre	Materials Unit	Materials $/unit	Materials Total Cost Per Acre	Owner-Operator	Land-owner	Tenant
ANNUAL									
METAL SHOP							2.14	----	2.14
MACHINE SHED							0.28	----	0.28
TRAILER HOUSE							3.17	----	3.17
FENCES							0.03	----	0.03
1/2 TON PICKUP	1.50	0.98					2.48	----	2.48
1/2 TON - 4 X 4 PICKUP	1.50	1.00					2.50	----	2.50
3/4 TON PICKUP	1.50	1.03					2.53	----	2.53
MINI PICKUP	1.50	0.65					2.15	----	2.15
LOADER WORK	0.20	0.23					0.43	----	0.43
GENERAL OVERHEAD							8.08	----	8.08
OPERATOR MANAGEMENT							16.16	----	16.16
Total ANNUAL							$39.95	$0.00	$39.95
GROW 1ST CUT ALF									
SPREAD FERTLIZER Operation	0.59	0.32	11-52-0	0.057	ton	291.00	16.59	17.50	8.30	9.20
CORRUGATE Operation	0.61	0.80						1.41	----	1.41
HAUL SPRAY WATER Operation	0.14	0.18						0.32	----	0.32
SPRAY ALFALFA Operation	1.01	0.65	CYGON 400	0.125	gal	34.70	4.34	6.00	2.17	3.83
OPEN DITCHES Operation	0.13	0.12						0.25	----	0.25
IRRIGATE ALFALFA Operation	6.06	0.00	CANVAS DAMS	1.000	acre	0.50	6.11	12.17	5.61	6.56
			CONCRETE DITCH			4.35				
			DIRT DITCH			0.51				
			GATED PIPE			0.75				
IRRIGATE ALFALFA Operation	2.76	0.00	CONCRETE DITCH			4.35	5.61	8.37	5.61	2.76
			DIRT DITCH			0.51				
			GATED PIPE			0.75				
SPRAY DITCHES Operation	0.08	0.02	CURTAIL	0.005	gal	35.38	0.18	0.28	0.18	0.10
Total GROW 1ST CUT ALF								$46.30	$21.87	$24.43
HARVEST 1ST CUT									
CLOSE DITCHES Operation	0.13	0.12						0.25	----	0.25
SWATH Operation	1.18	2.17						3.35	----	3.35
BALE Operation	2.36	2.63	BALING TWINE	0.170	bale	24.00	4.08	9.07	----	9.07
STACK BALES CUSTOM								15.60	----	15.60
Total HARVEST 1ST CUT								$28.27	$0.00	$28.27
GROW 2ND CUT ALF									
OPEN DITCHES Operation	0.13	0.12						0.25	----	0.25
IRRIGATE ALFALFA Operation	2.76	0.00	CONCRETE DITCH			4.35	5.61	8.37	5.61	2.76
			DIRT DITCH			0.51				
			GATED PIPE			0.75				
IRRIGATE ALFALFA Operation	2.76	0.00	CONCRETE DITCH			4.35	5.61	8.37	5.61	2.76
			DIRT DITCH			0.51				
			GATED PIPE			0.75				
SPRAY DITCHES Operation	0.08	0.02	CURTAIL	0.005	gal	27.38	0.14	0.24	0.14	0.10
Total GROW 2ND CUT ALF								$17.23	$11.36	$5.87
HARVEST 2ND CUT									
CLOSE DITCHES Operation	0.13	0.12						0.25	----	0.25
SWATH Operation	1.18	2.17						3.35	----	3.35
BALE Operation	2.36	2.63	BALING TWINE	0.170	bale	24.00	4.08	9.07	----	9.07

VARIABLE COSTS SECTION

VARIABLE COST Description		Dollars per Acre LABOR	MACHINERY	Materials Description	# Units Per Acre	Unit Type	$/unit	Total Cost Per Acre	Owner-Operator	Land-owner	Tenant
STACK BALES	CUSTOM								15.60	----	15.60
Total HARVEST 2ND CUT									$28.27	$0.00	$28.27
GROW 3RD CUT ALF											
OPEN DITCHES	Operation	0.13	0.12						0.25	----	0.25
IRRIGATE ALFALFA	Operation	2.76	0.00	CONCRETE DITCH			4.35	5.61	8.37	5.61	2.76
				DIRT DITCH			0.51				
				GATED PIPE			0.75				
IRRIGATE ALFALFA	Operation	2.76	0.00	CONCRETE DITCH			4.35	5.61	8.37	5.61	2.76
				DIRT DITCH			0.51				
				GATED PIPE			0.75				
Total GROW 3RD CUT ALF									$16.99	$11.22	$5.77
HARVEST 3RD CUT											
CLOSE DITCHES	Operation	0.13	0.12						0.25	----	0.25
SWATH	Operation	0.88	1.63						2.51	----	2.51
RAKE HAY	Operation	1.34	0.53						1.87	----	1.87
BALE	Operation	1.18	1.31	BALING TWINE	0.080	bale	24.00	1.92	4.41	----	4.41
STACK BALES	CUSTOM								7.80	----	7.80
Total HARVEST 3RD CUT									$16.84	$0.00	$16.84
Operating Interest									2.73	----	2.73
Total VARIABLE COST									$196.58	$44.45	$152.13
GROSS INCOME minus VARIABLE COST									$160.67	$134.18	$26.49

FIXED COSTS SECTION

FIXED COST Description	Unit	Owner-Operator	Land-owner	Tenant
Machinery and Equipment:				
Taxes	Acre	2.20	----	2.20
Insurance	Acre	4.74	----	4.74
Long Term Interest	Acre	30.54	----	30.54
Depreciation	Acre	23.57	----	23.57
Buildings and Improvments:				
Taxes	Acre	0.78	0.78	----
Insurance	Acre	1.01	1.01	----
Long Term Interest	Acre	9.51	9.51	----
Depreciation	Acre	3.91	3.91	----
Irrigation:				
Taxes	Acre	0.63	0.63	----
Insurance	Acre	1.27	1.27	----
Long Term Interest	Acre	13.14	13.14	----
Depreciation	Acre	7.25	7.25	----
Land:				
Taxes	Acre	5.50	5.50	----
Long Term Interest	Acre	69.30	69.30	----
Alfalfa Stand:				
Long Term Interest	Acre	6.29	6.29	----
Depreciation	Acre	35.62	7.35	28.27
Total FIXED Cost		$215.27	$125.95	$89.31
Total of ALL Cost		$411.85	$170.40	$241.44
NET PROJECTED RETURNS		($54.60)	$8.23	($62.82)

TABLE 1. Alfalfa Establishment Costs Per Acre of Growing Alfalfa

	Owner-Operator	Land-Owner	Tenant
Alfalfa seed	$ 27.00	$ -----	$ 27.00
2,4-DB (over 2,4-D used on malting barley)	10.49	5.25	5.24
Irrigate alfalfa #1	8.17	5.41	2.76
Bale straw	7.53	-----	7.53
Custom stack straw	19.50	-----	19.50
Irrigate alfalfa #2	8.17	5.41	2.76
Overhead and management (over malting barley alone)	11.89	-----	11.89
Operating interest (over malting barley alone)	1.41	-----	1.41
Machinery and equipment (over malting barley alone)	6.73	-----	6.73
Irrigation (over malting barley alone)	5.98	5.98	-----
Total Establishment Costs per acre of alfalfa establishment	$ 106.87	$ 22.05	$ 84.82
Assuming a 3 year stand life gives:			
$106.87 ÷ 3 year stand life = $35.62 depreciation cost			
DEPRECIATION COST Per Acre of Growing Alfalfa	$ 35.62	$ 7.35	$ 28.27
LONG-TERM INTEREST COST Per Acre of Growing Alfalfa	6.29	6.29	-----
TOTAL ESTABLISHMENT COST Per Acre of Growing Alfalfa	$ 41.91	$ 13.64	$ 28.27

TABLE 2. Machinery, Equipment, and Building Value and Use Assumptions

Resource Name	1990 List Price	List Price in Year Acquired	Current Market Value	Salvage Value	Useful Life Years	Useful Life Hr or Mi	Remaining Life Hr or Mi	Total Defined Annual Use
125 HP TRACTOR #1	$62,822	$44,958	$22,774	$11,240	12	4,488 hr	2,244 hr	374 hr
125 HP TRACTOR #2	62,822	44,958	22,774	11,240	12	5,364 hr	2,682 hr	447 hr
250 CC ATV	3,140	1,989	905	588	10	140 hr	70 hr	14 hr
80 HP TRACTOR	35,433	27,436	13,469	5,806	14	4,508 hr	2,254 hr	322 hr
SWATHER 15 FT	33,690	30,087	11,135	8,887	10	440 hr	220 hr	44 hr
ATV BOOM SPRAYER	2,300	1,932	879	674	8	112 hr	56 hr	14 hr
CORRUGATOR 9-ROW	2,520	1,918	873	567	10	510 hr	255 hr	51 hr
DITCHER V-TYPE 3-POINT	3,550	2,758	1,195	690	12	216 hr	108 hr	18 hr
FRONT LOADER 2-TON	7,323	5,333	2,950	1,575	10	200 hr	100 hr	20 hr
PTO TWINE BALER	14,474	11,742	4,811	3,468	10	270 hr	135 hr	27 hr
REAR BLADE 8 FT	1,090	721	525	180	12	216 hr	108 hr	18 hr
SIDE RAKE 8 FT	3,227	3,136	595	784	12	84 hr	42 hr	7 hr
SPRAYER 3-POINT 28 FT	1,750	1,470	495	513	8	40 hr	20 hr	5 hr
NURSE TANK 1000 GAL	1,019	1,019	464	301	10	1,160 hr	580 hr	116 hr
1/2 TON PICKUP 2WD	12,950	7,647	3,650	1,912	12	60,000 mi	30,000 mi	5,000 mi
1/2 TON PICKUP 4WD	17,400	10,151	8,725	2,538	12	60,000 mi	30,000 mi	5,000 mi
2-TON TRUCK #1	38,500	25,111	13,650	3,807	18	83,700 mi	41,850 mi	4,650 mi
3/4 TON PICKUP 2WD	14,950	8,917	4,250	2,229	12	60,000 mi	30,000 mi	5,000 mi
MINI PICKUP	9,070	6,196	2,463	1,549	12	60,000 mi	30,000 mi	5,000 mi

TABLE 3. Machinery, Equipment, and Building Cost Calculations

Machine/Vehicle		Unit	RESOURCE COST PER UNIT OF USE: 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	Costs per Acre: Variable	Costs per Acre: Fixed	Costs per Acre: TOTAL
125 HP TRACTOR	#1	$/Hr	$5.56	$0.00	$3.05	$0.00	$6.93	$0.91	$16.45	0.8667	$7.46	$6.79	$14.25
125 HP TRACTOR	#2	$/Hr	5.56	0.00	3.33	0.00	5.80	0.76	15.45	0.3510	3.12	2.30	5.42
250 CC ATV		$/Hr	1.10	0.00	0.02	0.00	7.37	0.97	9.46	0.0223	0.03	0.19	0.22
80 HP TRACTOR		$/Hr	3.56	0.00	1.85	0.00	4.57	0.63	10.61	0.3057	1.65	1.59	3.24
SWATHER	15 FT	$/Hr	6.41	0.00	6.64	0.00	30.71	3.80	47.56	0.4583	5.98	15.82	21.80
ATV BOOM SPRAYER		$/Hr	0.00	0.00	0.70	0.00	8.45	0.94	10.09	0.0223	0.02	0.21	0.23
CORRUGATOR 9-ROW		$/Hr	0.00	0.00	0.24	0.00	2.19	0.26	2.69	0.1000	0.02	0.25	0.27
DITCHER V-TYPE	3-POINT	$/Hr	0.00	0.00	0.30	0.00	7.96	1.00	9.26	0.0540	0.02	0.48	0.50
FRONT LOADER	2-TON	$/Hr	0.00	0.00	0.59	0.00	19.27	2.21	22.07	0.0333	0.02	0.72	0.74
PTO TWINE BALER		$/Hr	0.00	0.00	1.70	0.00	22.61	2.67	26.98	0.8333	1.42	21.07	22.49
REAR BLADE	8 FT	$/Hr	0.00	0.00	0.08	0.00	3.63	0.44	4.15	0.0540	0.00	0.22	0.22
SIDE RAKE	8 FT	$/Hr	0.00	0.00	0.36	0.00	8.96	1.28	10.60	0.2223	0.08	2.28	2.36
SPRAYER 3-POINT	28 FT	$/Hr	0.00	0.00	0.35	0.00	12.00	1.49	13.84	0.1430	0.05	1.93	1.98
NURSE TANK	1000 GAL	$/Hr	0.00	0.00	0.15	0.00	1.04	0.06	1.25	0.3200	0.05	0.35	0.40
1/2 TON PICKUP	2WD	$/Mi	0.09	0.00	0.05	0.00	0.15	0.03	0.32	7.0000	0.98	1.26	2.24
1/2 TON PICKUP	4WD	$/Mi	0.09	0.00	0.05	0.00	0.40	0.05	0.59	7.0000	0.98	3.15	4.13
2-TON TRUCK	#1	$/Mi	0.22	0.00	0.19	0.00	0.54	0.06	1.01	0.3200	0.13	0.19	0.32
3/4 TON PICKUP	2WD	$/Mi	0.09	0.00	0.06	0.00	0.17	0.04	0.36	7.0000	1.05	1.47	2.52
MINI PICKUP		$/Mi	0.06	0.00	0.03	0.00	0.10	0.02	0.21	7.0000	0.63	0.84	1.47

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