



2025 Crop Enterprise Budget: North Idaho – Alfalfa Production

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Budget spreadsheets and associated information are available at:

<https://www.uidaho.edu/extension/food/idaho-agbiz/crop-budgets>

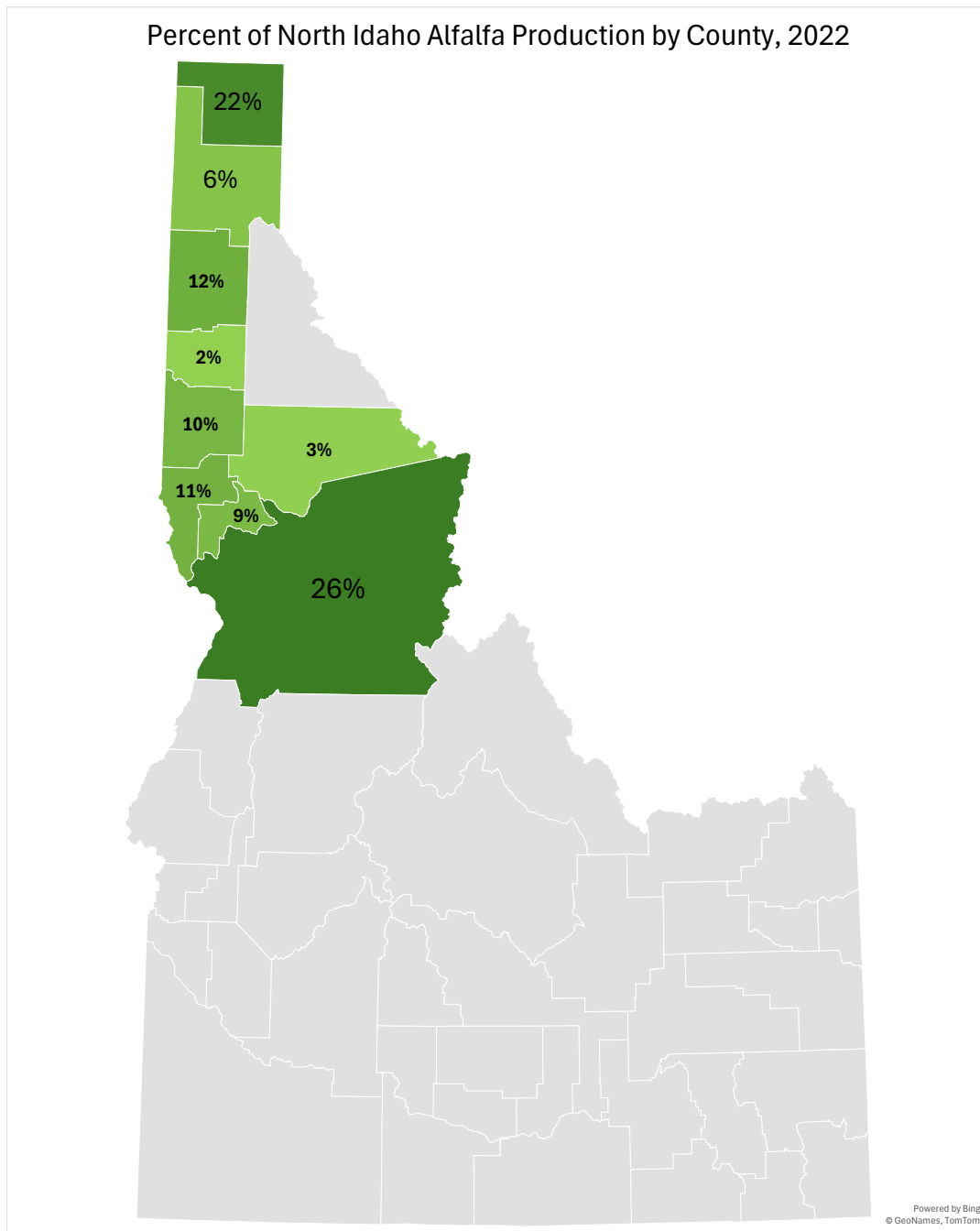
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Using Enterprise Budgets for Business Planning

The crop enterprise budget presented in Table 1 is meant to represent expected costs and returns for alfalfa production on a “model farm” in North ID during the 2025 production year (April – August 2025). It is important to note that enterprise costs and returns vary across farms and over time for a given farm. Such variation results from differences in geographic location and associated growing conditions (e.g., annual rainfall and temperature), sizes of farm operations, typical yields, sales prices, management experience and expertise, input prices, and other factors. Thus, the budget calculations provided in this budget may provide an estimate of general conditions for a particular region and time. They do not reflect University of ID (UI) recommendations for type and quantity of applications of fertilizer and pesticides. We recommend contacting a local UI Extension Educator or another agronomist for such advice. Adapting the budget for an operation with different characteristics is important if this budget were used in business planning for a specific operation. Such adaptation would include adjusting variables such as the types of inputs and quantities used as well as the prices paid for them.

Region of Analysis

This crop enterprise budget is meant to represent production conditions in the North ID counties where alfalfa hay is produced, including Benewah, Bonner, Boundary, Clearwater, Idaho, Kootenai, Latah, Lewis, and Nez Perce. The figure shows U.S. Department of Agriculture (USDA) National Agricultural Statistics Service (NASS) alfalfa production in tons per acre by county presented as percentage of total alfalfa production in the North ID counties.



Source: USDA NASS.

Background on the Model Farm

The model farm has a total of 2,000 acres in crop production with 100 acres in alfalfa hay and the remaining 1,900 acres in grain, oilseed, and legume production. The alfalfa stand was established last year and is left in production for about six years, although sometimes up to 10 years, excluding the establishment year. The alfalfa hay is cut twice by a custom operator during the growing season, in June and August, respectively.

Schedule of Operations

The table below shows the schedule of operations during the 2024 – 2025 growing season. Note that the fertilizer amounts will vary based on farm characteristics and conditions and so can be viewed as average amounts rather than specific recommendations.

Month	Operation	Materials/Service (per acre)
April 2025	Fertilize	25 lbs N; 70 lbs P; 10 lbs S
May 2025	Custom spray (weevils)	3 oz Mustang Max
June 2025	Custom harvest	Cut, rake, and bale
August 2025	Custom harvest	Cut, rake, and bale

Cost and Returns Components and Sources

Returns

Gross returns are equal to the quantity sold and the sales price. The quantity sold is the quantity produced minus any shrinkage. The quantity produced (tons) is equal to the yield (tons/acre) multiplied by the number of acres. For this enterprise budget, North ID counties' average alfalfa hay yields were obtained from USDA NASS. Average yields for North ID counties have averaged between 2.1 tons/acre and 2.7 tons/acre between 2014 and 2018 (the last year for which county level estimates are available). The yield included in the enterprise budget of 2.4 tons/acre reflects an average level. The sales price data were obtained from USDA AMS Washington-Oregon Direct Hay Reports. The specific prices are average prices from June (after first cutting) to August 2025 for alfalfa hay of "fair/good" quality, which was \$175/ton. Combining the yield in ton/acre and price in \$/ton provides the estimated gross return of \$420/acre.

Actual yields and sales prices will likely be higher and/or lower than those used in the overall enterprise budget in Table 1. Thus, we have included the "ranging analysis" in Table 2, which reflects the potential differences in net returns above operating costs under various yield and price scenarios.

Operating Costs

Item	Data Type	Source
Fertilizer	Price in \$/lb	Regional farm input sellers and USDA AMS Pacific Northwest Production Cost Report
Custom	Custom spray (weevils); Custom harvest (cut, rake, and bale)	University of Idaho Custom Rates for Idaho Agricultural Operations: 2025
Fuel – Farm Diesel	Farm diesel price in \$/gal.; Average price for April 2025.	USDA AMS Pacific Northwest Production Cost Report
Lubricants	Historical University of Idaho crop enterprise budgets value, indexed by CPI for fuel oil	Federal Reserve Economic Data, Federal Reserve Bank of St. Louis
Machinery Repairs	Historical University of Idaho crop enterprise budgets value, indexed by PPI for maintenance and repair services for agricultural machinery	Federal Reserve Economic Data, Federal Reserve Bank of St. Louis
Equipment operator labor	Hourly wage in \$/hr; Added 25% of wage for payroll overhead	ID Department of Labor Crop Activity 2025 Report
Crop insurance	Catastrophic hay insurance	USDA RMA
Operating interest	Variable interest rates: Operating loans	Federal Reserve Bank of Kansas City Ag Credit Survey

Cash Overhead Costs

Item	Data Type	Source
General Overhead	5% of operating expenses	Historical University of Idaho crop enterprise budgets
Land Rent	Cash rental rate in \$/acre	USDA NASS
Management Fee	5% of gross revenue	Historical University of Idaho crop enterprise budgets

Discussion

In comparison to the 2015 crop enterprise budget (CEB) for alfalfa production developed by Kathleen Painter, our budget for 2025 had higher operating costs and slightly lower net returns. Specifically, the 2015 CEB had net returns above operating costs estimated at positive \$273.29/acre, while that for 2025 is positive \$152.21/acre. The difference is mostly explained by slightly lower average yields and higher custom operations costs. The higher custom operations costs reflect that we assumed that the farm specializes in grain, oilseed, and legumes on most of the acres, and so hires a custom operator for all alfalfa hay operations besides fertilization. While this is offset by lower machinery and labor

costs, the lower costs for these items are not enough to make up for the higher custom costs. These values will vary based on preferences and strategy among growers.

While net returns for 2025 are estimated as positive, it is important to note that the 2025 growing season in North ID was drier than normal overall, although some areas had near normal precipitation. Thus, it is likely the case that many growers had yields that were below the regional average of 2.4 tons/acre, while some may have had near or higher than average yields. The “ranging analysis” results in Table 2 show that to achieve the net returns above operating cost value at the level of that in 2015 of about \$270/acre would require yields above 3 tons/acre with prices above \$180/ton or yields of 3.25 tons/acre and prices of \$170/ton or higher. The ranging analysis also shows that net returns above operating costs were likely positive unless yields were far below average (less than 1.75 tons/acre).

Acknowledgments

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Table 1. 2025 Costs and Returns for Alfalfa Hay Production – North Idaho

Alfalfa Hay Production 2025 North Idaho				Number of acres: 100	
Item	Quantity per acre	Unit	Price or cost	Total value or cost	Value or cost per acre
GROSS RETURNS					
Alfalfa hay	2.4	ton	\$ 175.00	\$ 42,000.00	\$ 420.00
TOTAL GROSS RETURNS				\$ 42,000.00	\$ 420.00
OPERATING COSTS					
Seed:				\$ -	\$ -
Fertilizer:				\$ 4,590.00	\$ 45.90
Nitrogen (dry)	30	lb	\$ 0.69	\$ 2,070.00	\$ 20.70
Phosphorus	20	lb	\$ 1.02	\$ 2,040.00	\$ 20.40
Sulfur	12	lb	\$ 0.40	\$ 480.00	\$ 4.80
Pesticides:				\$ 399.00	\$ 3.99
Mustang Max	3	oz	\$ 1.33	\$ 399.00	\$ 3.99
Custom:				\$ 15,960.00	\$ 159.60
Custom spray (weevils)	1	acre	\$ 9.60	\$ 960.00	\$ 9.60
Custom harvest (cut, rake, bale - 2x)	2	acre	\$ 75.00	\$ 15,000.00	\$ 150.00
Machinery:				\$ 3,259.60	\$ 32.60
Fuel - Farm Diesel	1.62	gal	\$ 3.48	\$ 562.60	\$ 5.63
Lubricants	1	acre	\$ 2.24	\$ 224.00	\$ 2.24
Machinery repairs	1	acre	\$ 24.73	\$ 2,473.00	\$ 24.73
Labor:				\$ 935.98	\$ 9.26
Equipment Operator Labor	0.39	hrs	\$ 23.75	\$ 926.25	\$ 9.26
Other:				\$ 9.73	\$ 9.73
Crop insurance (PRF)	1	acre	\$ 9.73	\$ 9.73	\$ 9.73
Interest on Operating Loan @ 8%					
	0.08	months 4	\$ 25,154.31	\$ 670.78	\$ 6.71
TOTAL OPERATING COSTS				\$ 25,825.09	\$ 267.79
OPERATING COSTS PER TON					\$ 111.58
NET RETURNS ABOVE OPERATING COSTS					\$ 152.21

cont. Table 1. 2025 Costs and Returns for Alfalfa Hay Production – North Idaho

Cash Overhead Costs:			
General Overhead	\$	13.39	\$ 13.39
Land Rent	\$	75.00	\$ 75.00
Management Fee	\$	21.00	\$ 21.00
TOTAL CASH OVERHEAD COSTS			\$ 109.39
OWNERSHIP COSTS PER TON			\$ 45.58
TOTAL COSTS PER ACRE			\$ 377.18
TOTAL COSTS PER TON			\$ 157.16
NET RETURNS ABOVE TOTAL COSTS			\$ 42.82

Table 2. Ranging Analysis – 2025 Alfalfa Hay Production – North Idaho

NET RETURN PER ACRE ABOVE OPERATING COSTS											
Alfalfa Production - 2025 North Idaho											
Price (\$/ton)		Yield (tons/acre)									
Alfalfa hay		1.75		2.00		2.25		2.40		2.75	
		3.00		3.25							
\$	190.00	\$	64.71	\$	112.21	\$	159.71	\$	188.21	\$	254.71
\$	185.00	\$	55.96	\$	102.21	\$	148.46	\$	176.21	\$	240.96
\$	180.00	\$	47.21	\$	92.21	\$	137.21	\$	164.21	\$	227.21
\$	175.00	\$	38.46	\$	82.21	\$	125.96	\$	152.21	\$	213.46
\$	170.00	\$	29.71	\$	72.21	\$	114.71	\$	140.21	\$	199.71
\$	165.00	\$	20.96	\$	62.21	\$	103.46	\$	128.21	\$	185.96
\$	160.00	\$	12.21	\$	52.21	\$	92.21	\$	116.21	\$	172.21