



## 2025 Crop Enterprise Budget: Eastern Idaho – Alfalfa Hay Establishment in Grain Stubble

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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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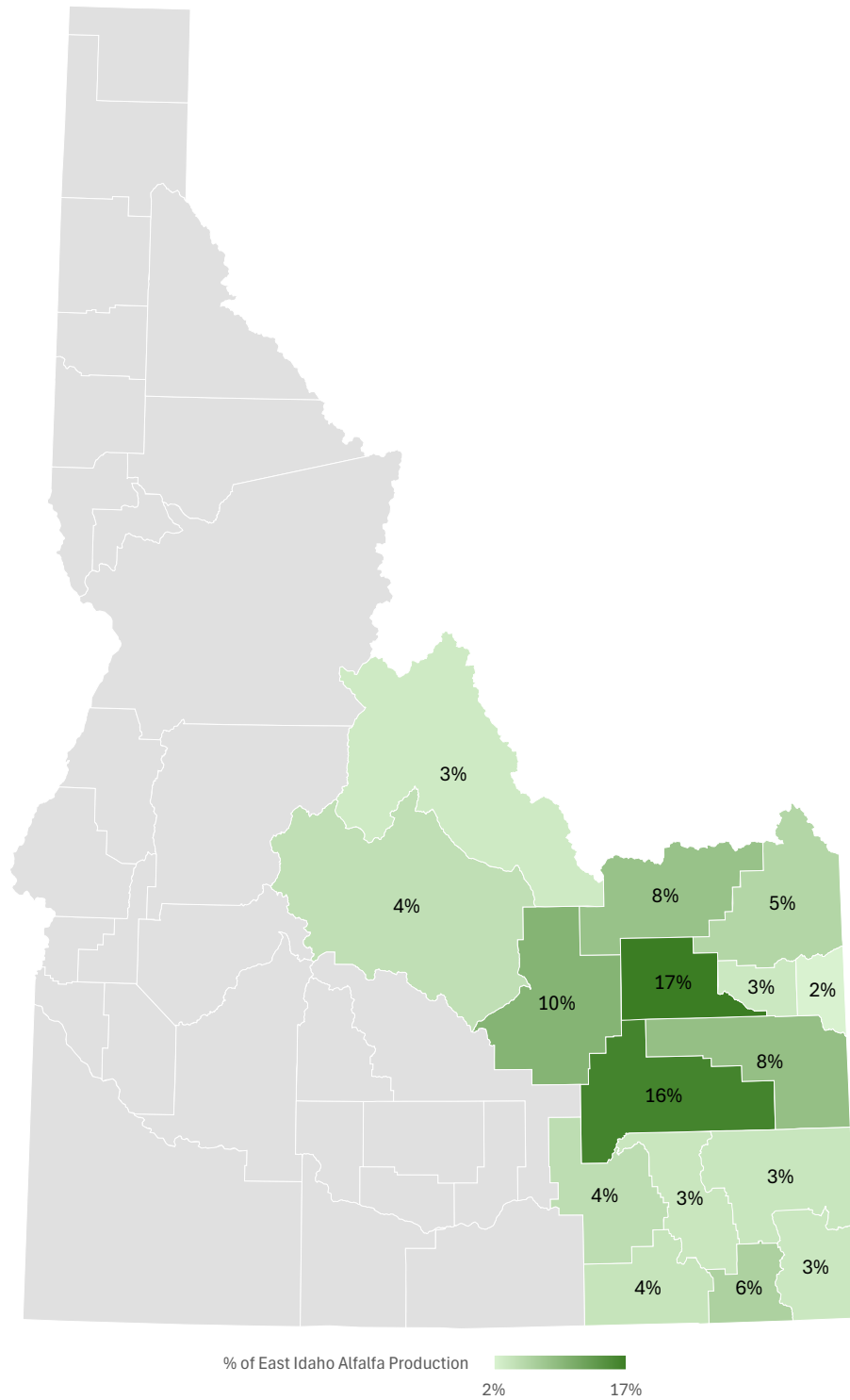
## **Using Enterprise Budgets for Business Planning**

The crop enterprise budget presented in Table 1 is meant to represent expected costs and returns for alfalfa establishment in grain stubble on a “model farm” in Eastern ID during the 2025 production year (September 2024 – September 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 Eastern ID counties where alfalfa hay is produced, including Bannock, Bear Lake, Bingham, Bonneville, Butte, Caribou, Clark, Custer, Franklin, Fremont, Jefferson, Lemhi, Madison, Oneida, Power, and Teton counties. The figure shows U.S. Department of Agriculture (USDA) National Agricultural Statistics Service (NASS) alfalfa production by county presented as percentage of total alfalfa production across all Eastern ID counties.

## Percent of Total Alfalfa Production by County for Eastern ID, 2022



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Source: USDA NASS.

## Background on the Model Farm

The model farm has a total of 1,250 acres in crop production with 1,000 acres in alfalfa hay and the remaining 250 acres in grain. The alfalfa stand is established this year and is left in production for five years with 250 acres established each year. The alfalfa hay is cut and baled twice by a custom operator during the growing season, in July and September, respectively. It is assumed that the farm plants conventional rather than “Roundup ready” seed. Stakeholders have indicated that both types of seed are popular among growers in the region. Adapting the budget for an operation that plants “Roundup ready” seed would imply both a higher seed price (by up to \$3.00/lb) as well as a higher yield.

The model farm has a center pivot irrigation system. Irrigation power costs are based only on pressurization only (no lift). Irrigation power costs (\$/ac-in) were provided by staff at Idaho Power based on the Schedule I24S – Agricultural Irrigation Secondary sheet for 2025. Irrigation operations occur once (pre-tillage) in the fall and then resume for monthly applications from May through September. The total amount of water applied is 25 acre-inches (ac-in), and monthly quantities are in the Schedule of Operations table below.

### *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)  |
|--------------------------|---------------------------------|---|
| <b>September 2024</b>    | Irrigate and till               | Irrigate 2 ac-in pre-till   |
| <b>April 2025</b>        | Fertilize, till, plant and pack | Custom fertilize;<br>17 lbs N; 77 lbs P; 45 lbs K; 15 lbs S                                       |
| <b>May - August 2025</b> | Irrigate                        | Irrigate monthly: May, 2 ac-in; June, 4 ac-in; July, 6 ac-in; August, 7 ac-in; September, 4 ac-in |
| <b>July 2025</b>         | Custom harvest                  | Cut, rake, and bale   |
| <b>September 2025</b>    | Custom harvest                  | Cut, rake, and bale   |

## Cost and Returns Components and Sources

### *Returns*

Gross returns are equal to the quantity sold multiplied by 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, Eastern ID counties’ average alfalfa hay yields were obtained from USDA NASS. There is variation in average yields for Eastern ID counties as reflected in the range in averages of 2 and 4.9 tons/acre between 2014 and 2018 (the last year for which county level estimates are available). The yield included in the enterprise budget of 2.8 tons/acre reflects two-thirds of the average yield of 4.2 tons/acre for the consistently higher yielding, including Bingham,

Butte, Clark, Franklin, Fremont, Jefferson, Madison, and Power. The average value was adjusted since there are two cuttings in the establishment year rather than three in post-establishment years. The sales price data were obtained from USDA AMS Idaho Direct Hay Reports. The prices used are average prices from June (after first cutting) to August 2025 for alfalfa hay of “fair/good” quality, which was \$160/ton. Combining the yield in ton/acre and price in \$/ton provides the estimated gross return of \$448/acre.

Actual yields and sales prices will likely be higher and/or lower than those used in the 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*

| <b>Item</b>                       | <b>Data Type</b>  | <b>Source</b>   |
|-----------------------------------|---|---|
| Seed                              | Price in \$/lb  | Regional seed dealers and growers   |
| Fertilizer                        | Price in \$/lb  | Regional farm input sellers and USDA AMS Pacific Northwest Production Cost Report |
| Custom                            | Custom fertilize;<br>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 of prices for September 2024 and April 2025.  | USDA AMS Pacific Northwest Production Cost Report                                 |
| Irrigation Power – Center Pivot   | Price in \$/ac-in   | Idaho Power, I24S   |
| Irrigation Water Assessment       | Rate in \$/acre   | Regional irrigation districts   |
| Irrigation Repairs – Center Pivot | 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                  |
| 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 Risk Protection (CAT) 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 | Historical University of Idaho crop enterprise budgets |
| Management Fee   | 5% of gross revenue         | Historical University of Idaho crop enterprise budgets |

### **Discussion**

In comparison to the 2019 crop enterprise budget (CEB) for alfalfa establishment in grain stubble developed by Eborn, Sagers, and Findlay, our CEB for 2025 had estimated lower net returns above operating costs due to both lower gross revenues and higher total operating costs. The lower gross return in 2025 reflects different assumptions about the yields obtained on the model farm, which can vary greatly from farm-to-farm due to factors such as seed choice and other production practices. The 2019 CEB estimated net returns above operating costs estimated at positive \$131.02/acre, while those for 2025 are -\$50.88/acre.

The “ranging analysis” results in Table 2 show that yields above 3.5 tons/acre and prices above \$175/acre would be needed to achieve the net returns above operating cost value at the level of that in 2019 of about \$131/acre. The ranging analysis also shows that net returns above operating costs would likely be negative at the average price of \$160/ton, unless yields were above 3 tons/acre.

### **Acknowledgments**

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**Table 1. 2025 Costs and Returns for Alfalfa Hay Establishment in Grain Stubble – Eastern Idaho**

| Alfalfa Hay Establishment in Grain Stubble<br>2025 Eastern Idaho |                      |        |                  | Number of acres: 250   |                           |
|--|----------------------|--------|------------------|------------------------|---------------------------|
| Item   | Quantity per<br>acre | Unit   | Price or<br>cost | Total value or<br>cost | Value or cost<br>per acre |
| <b>GROSS RETURNS</b>   |                      |        |                  |                        |                           |
| Alfalfa hay  | 2.8                  | ton    | \$ 160.00        | \$ 112,000.00          | \$ 448.00                 |
| <b>TOTAL GROSS RETURNS</b>                                       |                      |        |                  | <b>\$ 112,000.00</b>   | <b>\$ 448.00</b>          |
| <b>OPERATING COSTS</b>   |                      |        |                  |                        |                           |
| <b>Seed:</b>   |                      |        |                  | <b>\$ 17,775.00</b>    | <b>\$ 71.10</b>           |
| Alfalfa hay  | 18                   | lb     | \$ 3.95          | \$ 17,775.00           | \$ 71.10                  |
| <b>Fertilizer:</b>   |                      |        |                  | <b>\$ 26,140.00</b>    | <b>\$ 104.56</b>          |
| Nitrogen - pre-plant   | 17                   | lb     | \$ 0.73          | \$ 3,102.50            | \$ 12.41                  |
| Dry P205   | 77                   | lb     | \$ 0.85          | \$ 16,362.50           | \$ 65.45                  |
| K2O  | 45                   | lb     | \$ 0.46          | \$ 5,175.00            | \$ 20.70                  |
| Sulfur   | 15                   | lb     | \$ 0.40          | \$ 1,500.00            | \$ 6.00                   |
| <b>Pesticides:</b>   |                      |        |                  | <b>\$ -</b>            | <b>\$ -</b>               |
| <b>Custom:</b>   |                      |        |                  | <b>\$ 25,187.50</b>    | <b>\$ 100.75</b>          |
| Custom fertilize   | 1                    | acre   | \$ 9.75          | \$ 2,437.50            | \$ 9.75                   |
| Custom harvest (cut, rake, bale - 2x)                            | 2                    | acre   | \$ 45.50         | \$ 22,750.00           | \$ 91.00                  |
| <b>Irrigation:</b>   |                      |        |                  | <b>\$ 28,200.00</b>    | <b>\$ 112.80</b>          |
| Irrigation Power - Center Pivot                                  | 25                   | ac-in  | \$ 2.97          | \$ 18,562.50           | \$ 74.25                  |
| Irrigation Water Assessment                                      | 1                    | acre   | \$ 16.80         | \$ 4,200.00            | \$ 16.80                  |
| Irrigation Repairs - Center Pivot                                | 25                   | ac-in  | 0.87             | \$ 5,437.50            | \$ 21.75                  |
| <b>Machinery:</b>  |                      |        |                  | <b>\$ 5,796.00</b>     | <b>\$ 23.18</b>           |
| Fuel - Farm Diesel   | 4.85                 | gal    | \$ 3.44          | \$ 4,171.00            | \$ 16.68                  |
| Lubricants   | 1                    | acre   | \$ 2.94          | \$ 735.00              | \$ 2.94                   |
| Machinery repairs  | 1                    | acre   | \$ 3.56          | \$ 890.00              | \$ 3.56                   |
| <b>Labor:</b>  |                      |        |                  | <b>\$ 11,729.00</b>    | <b>\$ 46.92</b>           |
| Equipment Operator Labor   | 1.08                 | hrs    | \$ 21.88         | \$ 5,907.60            | \$ 23.63                  |
| Irrigation Labor   | 1.04                 | hrs    | \$ 22.39         | \$ 5,821.40            | \$ 23.29                  |
| <b>Other:</b>  |                      |        |                  | <b>\$ 655.00</b>       | <b>\$ 2.62</b>            |
| Crop insurance (CAT)   | 1                    | acre   | \$ 2.62          | \$ 655.00              | \$ 2.62                   |
|  |                      |        |                  |                        |                           |
|  |                      | months |                  |                        |                           |
| Interest on Operating Loan @ 8%                                  | 0.08                 | 12     | \$ 115,482.50    | \$ 9,238.60            | \$ 36.95                  |
| <b>TOTAL OPERATING COSTS</b>                                     |                      |        |                  | <b>\$ 124,721.10</b>   | <b>\$ 498.88</b>          |
| <b>OPERATING COSTS PER TON</b>                                   |                      |        |                  |                        | <b>\$ 178.17</b>          |
| <b>NET RETURNS ABOVE OPERATING COSTS</b>                         |                      |        |                  |                        | <b>\$ (50.88)</b>         |

**cont. Table 1. 2025 Costs and Returns for Alfalfa Hay Establishment in Grain Stubble – Eastern Idaho**

|                                      |           |                    |
|--------------------------------------|-----------|--------------------|
| <b>Cash Overhead Costs:</b>          |           |                    |
| General Overhead                     | \$ 24.94  | \$ 24.94           |
| Land Rent                            | \$ 210.00 | \$ 210.00          |
| Management Fee                       | \$ 22.40  | \$ 22.40           |
| <b>TOTAL CASH OVERHEAD COSTS</b>     |           | <b>\$ 257.34</b>   |
| <b>OWNERSHIP COSTS PER TON</b>       |           | <b>\$ 91.91</b>    |
| <b>TOTAL COSTS PER ACRE</b>          |           | <b>\$ 756.23</b>   |
| <b>TOTAL COSTS PER TON</b>           |           | <b>\$ 270.08</b>   |
| <b>NET RETURNS ABOVE TOTAL COSTS</b> |           | <b>\$ (308.23)</b> |



**Table 2. Ranging Analysis – 2025 Alfalfa Hay Establishment in Grain Stubble – Eastern Idaho**

| NET RETURN PER ACRE ABOVE OPERATING COSTS                   |        |                  |             |             |            |            |            |           |  |  |
|---|--------|------------------|-------------|-------------|------------|------------|------------|-----------|--|--|
| Alfalfa Establishment in Grain Stubble - 2025 Eastern Idaho |        |                  |             |             |            |            |            |           |  |  |
| Price (\$/ton)  |        | Yield (ton/acre) |             |             |            |            |            |           |  |  |
| Alfalfa hay   |        | 2                | 2.25        | 2.5         | 2.80       | 3          | 3.25       | 3.5       |  |  |
| \$  | 175.00 | \$ (148.88)      | \$ (105.13) | \$ (61.38)  | \$ (8.88)  | \$ 26.12   | \$ 69.87   | \$ 113.62 |  |  |
| \$  | 170.00 | \$ (158.88)      | \$ (116.38) | \$ (73.88)  | \$ (22.88) | \$ 11.12   | \$ 53.62   | \$ 96.12  |  |  |
| \$  | 165.00 | \$ (168.88)      | \$ (127.63) | \$ (86.38)  | \$ (36.88) | \$ (3.88)  | \$ 37.37   | \$ 78.62  |  |  |
| \$  | 160.00 | \$ (178.88)      | \$ (138.88) | \$ (98.88)  | \$ (50.88) | \$ (18.88) | \$ 21.12   | \$ 61.12  |  |  |
| \$  | 155.00 | \$ (188.88)      | \$ (150.13) | \$ (111.38) | \$ (64.88) | \$ (33.88) | \$ 4.87    | \$ 43.62  |  |  |
| \$  | 150.00 | \$ (198.88)      | \$ (161.38) | \$ (123.88) | \$ (78.88) | \$ (48.88) | \$ (11.38) | \$ 26.12  |  |  |
| \$  | 145.00 | \$ (208.88)      | \$ (172.63) | \$ (136.38) | \$ (92.88) | \$ (63.88) | \$ (27.63) | \$ 8.62   |  |  |