

Alfalfa Profits Beat Corn and Soybeans

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The market run-up that occurred in 2007-2008, led by corn, made many producers evaluate their crop rotations. There are many reasons for selecting crops to grow each year, but certainly one of the most important reasons is relative profitability. The rally in the corn market led the way but the prices for other crops were necessarily bid up in order to compete for a limited number of acres. Annual crops are generally easier substitutes for each other, but given longer term market signals, perennials such alfalfa will be compared to annual crops as well.

Farm business management records from Minnesota and Wisconsin were summarized using the FINBIN program on the website of the Center for Farm Financial Management at the University of Minnesota. Only records from the 2008 crop year were included in the summary. The budgets have been adapted from this summary (Table 1). Some overhead expenses have been excluded as they were whole farm expenses and not tied to any particular crop. The alfalfa budget was adjusted to account for establishment costs spread over the assumed life of stand of four years.

The first analysis producers often make is to compare the return over direct costs for the crops they are considering. The adjusted budgets for 2008 show market revenue for alfalfa at \$542.30 with \$155.95 direct costs and \$386.35 return over direct costs. Revenue for corn was \$644.36 with direct costs of \$338.88 leaving \$305.48 return over direct costs. Soybeans generated the least income at \$379.69 with direct costs of \$153.43 resulting in \$226.26 return over direct costs. This comparison yields approximately \$80 difference between each of the crops in return over direct costs, which must cover fixed or overhead costs, land costs, and a return to the operator for labor and management.

Fixed costs tend to vary less among crops but some difference is evident, primarily due to differences in the machinery needed and the labor requirements. After subtracting fixed or overhead costs, the amount left over is available to pay for land costs and operator labor and management. When analyzing the costs and returns, alfalfa shows a more favorable return over all listed costs than either corn or soybeans (Table 1).

Table 2 shows break-even prices based on the budgeted costs and yields shown in Table 1. Soybean and alfalfa prices were calculated to result in the same level of return over all listed costs as corn, at the price of corn listed in each column. The budgets for 2008 showed alfalfa to be the most profitable crop followed by corn, with soybeans being the least profitable. Soybeans would have needed a price of \$11.22 per bushel to break-even with corn at \$3.87. Alfalfa prices could have declined to \$110.69 and would still have been as profitable as corn.

The price for any crop adjusts over time to ration supply with demand. With crops like corn and soybeans that are more easily transported, the price difference from one region to another is minimal. In a year of short production in a local area, these commodities can easily be sourced from other areas of the country where production is plentiful. Alfalfa hay is considerably different in that the cost of transportation is much higher relative to value due to its bulky nature. As a result, the local price for hay may be much more volatile than for grains. This volatility or price risk is another factor for producers to consider in selecting a crop rotation.

Table 1. Enterprise budgets for Midwest alfalfa, corn, and soybeans.

	Alfalfa	Corn	Soybean
	-----\$/ac-----		
Yield	4.25	166.50	39.80
Price	127.60	3.87	9.54
Revenue	542.30	644.36	379.69
Seed	11.25	70.79	36.25
Fertilizer	39.47	110.66	9.81
Crop Chemicals	4.50	24.43	27.51
Crop Insurance	1.83	26.74	25.44
Drying Expenses	0.00	28.74	0.00
Storage	1.12	1.16	0.00
Fuel & Oil	39.82	30.19	22.35
Repairs	47.59	33.21	24.93
Miscellaneous	5.10	1.50	1.95
Operating Interest	5.27	11.46	5.19
Total Direct Costs	155.95	338.88	153.43
Return Over Direct Costs	386.35	305.48	226.26
Overhead Expenses			
Hired Labor	15.57	8.22	5.80
Mach. & Building Depreciation	36.19	34.54	24.76
Return to Land & Operator			
Labor/Management	334.59	262.72	195.70

Budgets from 2008 farm financial mgmt records (www.finbin.umn.edu.)

Table 2. Break-even prices at yields and costs (shown in Table 1).

	-----\$/unit-----				
Corn	3.07	3.47	3.87	4.27	4.67
Soybeans	7.88	9.55	11.22	12.90	14.57
Alfalfa	79.35	95.02	110.69	126.36	142.03

This comparison does not account for N carry-over from alfalfa or soybeans, which should be credited as it reduces the N needed for corn the following year. Farm program payments are not included in this analysis. Direct payments are the only certain payments and these are decoupled from the crops grown.