

Cultivating Prosperity: Unlocking the Six Factors of Profit with RD Financial

Producers Hal and Merna Gall* operate a diverse crop business. They have always believed their business to be profitable. However, like many other producers, they typically only consider their actual operating expenses and returns when assessing their financial situation. Similarly, they often prepare only the financial statements required by their financial institution, without completing regular analyses to identify areas for improvement or strengths within their operation. Today, the Galls will use the RD Financial tool to evaluate their business based on the six factors of profit.

Six Factors of Profit

Profit, which is the revenue remaining after all expenses are paid, is the goal of every successful farm and ranch business. Although this may seem like a simple concept, many producers mistake positive cash flow for profit. A positive cash flow means that more cash is generated than spent, but this approach does not account for all sources of income, such as asset sales versus commodity sales, nor does it consider non-cash expenses like depreciation. Profit, on the other hand, is defined as the positive return after all cash and non-cash expenses are accounted for.

For producers in farm or ranch businesses, it is crucial to maintain up-to-date financial statements and perform regular analyses using these statements. Part of this analysis involves understanding what contributes to the profitability of the business. Profit can be broken down into six main factors: production (number of units produced), production per unit, direct costs, value per unit, enterprise mix, and overhead costs.

Before analyzing a business based on these six factors, it is important to have adequate strategic planning in place. This planning should include both operational and long-term goals and objectives which need to be realistic and achievable.

RightRisk Analytics

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For example, Hal and Merna Gall have the primary goal of maintaining ownership of a profitable farm that can be passed down to the next generation. At the operational level, they aim for yield targets for each of their crop enterprises that exceed their historical averages but remain within achievable ranges. In their case, further analysis using financial statement information will help identify potential revenue shortfalls as well as profit-making opportunities.

RD Financial for business analysis

RD Financial is designed to demonstrate the interaction between financial statements and the financial performance of a farm or ranch business, Figure 1. The tool uses a step-by-step approach that allows users to enter their own data or modify data from an example farm that has already been entered.

RD Financial generates five financial statements from the information provided: income statement, cash flow statement, beginning and ending balance sheets, and owner equity statement. It also calculates a set of financial ratios and indices based on the data entered. The tool includes numerous help functions and allows users to save their information or reset and start over. For a detailed presentation on RD Financial and its applications, select "Tool Support" from the opening menu or view an online presentation at RightRisk.org.

Many farms and ranches, like the Galls', have more than one enterprise unit, making it important to consider data from all the enterprises when building financial statements. RD Financial includes a built-in example farm to demonstrate its use. The first step is to enter the necessary financial data. This includes sections for crop revenue and expenses, livestock revenue and expenses, taxes and insurance, assets and liabilities, and miscellaneous and overhead expenses, Figure 2.

The example farm illustrates how revenues and expenses are divided by enterprise. Crop expenses are also categorized by enterprise, and the tool provides extra spaces for users to include any additional expenses not listed. Taxes and insurance (except crop insurance) are entered for the entire operation, followed by asset and liability values. The tool accounts for both short-term and long-term liabilities and calculates real estate values based on the per-acre values entered by the user.

For the Galls, data is entered for their winter wheat-fallow (1,500 acres), non-irrigated corn (500 acres), and irrigated corn enterprises (500 acres). For the winter wheat enterprise, the Galls typically fallow 50 percent of their acreage while farming the remaining half. Revenues and expenses for each crop are entered under the respective tabs, along with tabs for taxes and insurance, assets and liabilities, and miscellaneous and overhead expenses.

Figure 3. Income and Owner Equity Statement Comparison

Income Statement - Accrual Adj.		Income Statement - Accrual Adj.	
	Income		Income
Cash Income (Net of cull lvstk sales)	\$609,453	Cash Income (Net of cull lvstk sales)	\$784,453
Non-Cash Income Adjustments	0	Non-Cash Income Adjustments	0
Non-Cash Income (Raised Brdo Lvstk)	0	Non-Cash Income (Raised Brdo Lvstk)	0
Capital Gain/Loss on Breeding Lvstk (Net)	0	Capital Gain/Loss on Breeding Lvstk (Net)	0
Gross Revenue	\$609,453	Gross Revenue	\$784,453
Expense		Expense	
Cash Expense (Excluding Interest)	449,062	Cash Expense (Excluding Interest)	564,960
Non-Cash Feed Inventory Adjustment	0	Non-Cash Feed Inventory Adjustment	0
Other Non-Cash Non-Interest Expense	0	Other Non-Cash Non-Interest Expense	0
Depreciation (Land, Bldgs, Equip.)	34,500	Depreciation (Land, Bldgs, Equip.)	34,500
Total Operating Expense	483,562	Total Operating Expense	599,460
Cash Int. Exp. - T.D. & C.L.	12,540	Cash Int. Exp. - T.D. & C.L.	13,650
Cash Int. Exp. - Operating	7,261	Cash Int. Exp. - Operating	9,269
Non-Cash Interest Expense	(651)	Non-Cash Interest Expense	(684)
Total Expense	\$502,712	Total Expense	\$621,695
Net Business Income From Operations	106,741	Net Business Income From Operations	162,758
Net Business Income	106,741	Net Business Income	162,758
Income+SS+Def. Tax-Cash & Non-Cash	0	Income+SS+Def. Tax-Cash & Non-Cash	0
Net Income	\$106,741	Net Income	\$162,758
Statement of Owner Equity		Statement of Owner Equity	
Beginning Net Worth (Cost/Mrkt)	1,325,153	Beginning Net Worth (Cost/Mrkt)	1,399,354
Net Income	106,741	Net Income	162,758
Non-Business Cash Inflows	0	Non-Business Cash Inflows	0
Owner Withdrawals (Cash)	-	Owner Withdrawals (Cash)	-
Asset Valuation Change/Cont./Distrib.	100,000	Asset Valuation Change/Cont./Distrib.	100,000
Calculated Endino Net Worth	\$0	Calculated Endino Net Worth	\$0
Reported Endino Net Worth (Cost/Mrkt)	1,331,894	Reported Endino Net Worth (Cost/Mrkt)	1,462,111
Discrepancy	(\$61)	Discrepancy	\$0

Figure 1. RD Financial Menu Screen

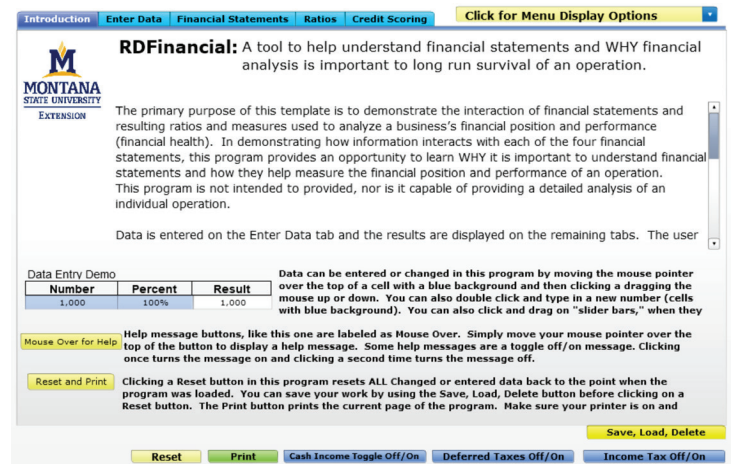
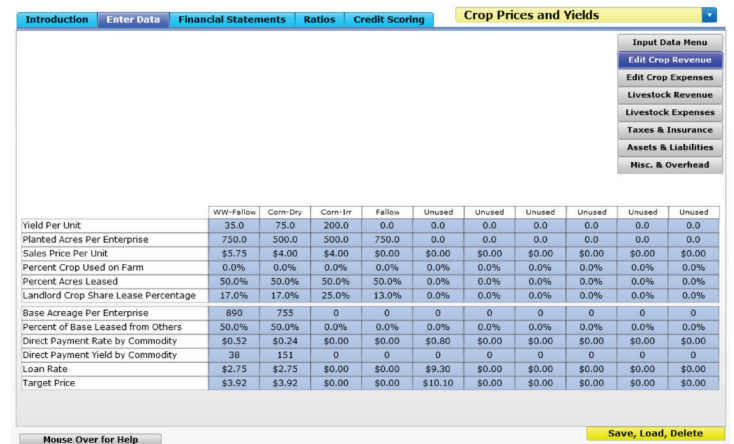


Figure 2. RD Financial Crop Yield Input



Number of Units Produced

The number of units or total production produced relates to the Galls' resource base, specifically the crops they produce. Profit can be increased by adding more production units. In this case, this would mean adding irrigated or dryland crop acreage, most likely in the form of leased acres. While this may seem like a straightforward way to increase profit, managers should be cautious about the associated costs and other non-cash considerations, such as labor availability and the availability of additional acreage.

In our example, let's assume the Galls aim to increase their leased irrigated corn acreage by 250 acres, bringing the total to 750 acres. If this is a viable option and the

Figure 4. Effects on net income from crop yield increase

Income Statement - Accrual Adj.	Income
Cash Income (Net of cull lvstk sales)	\$644.453
Non-Cash Income Adjustments	0
Non-Cash Income (Raised Brda Lvstk)	0
Capital Gain/Loss on Breeding Lvstk (Net)	0
Gross Revenue	\$644.453
	Expense
Cash Expense (Excluding Interest)	449.062
Non-Cash Feed Inventory Adjustment	0
Other Non-Cash Non-Interest Expense	0
Depreciation (Land, Bldgs, Equip.)	34.500
Total Operating Expense	483.562
Cash Int. Exp. - T.D. & C.L.	12.540
Cash Int. Exp. - Operating	7.261
Non-Cash Interest Expense	(651)
Total Expense	\$502.712
Net Business Income From Operations	141.741
Net Business Income	141.741
Income+SS+Def. Tax--Cash & Non-Cash	0
Net Income	\$141.741

Figure 4. Any adjustments in this area must be realistic when accounting for the increased output through improved seed, more effective fertilizer, etc., especially where the change may also imply an increase in direct costs (see next section).

Direct Costs

Direct costs, also known as variable or operating costs, are expenses directly tied to production and therefore affect profitability. Many operations focus on these costs first when seeking to cut expenses and improve profitability. This approach is understandable since most fixed costs, such as land payments, taxes, and insurance, must be paid to keep operations running.

The “Family Living, Revenues, Expenses” option of the RD Financial tool allows users to adjust a wide range of categories to discover their effects on financial statements and overall financial position, Figure 5. For example, reducing crop production costs by 5 percent or sliding the percent crop cost of production to 95 percent, increases overall net income by \$24,895. Conversely, a 26 percent increase in production costs can reduce net income to almost zero. This feature is useful for the Galls to anticipate the impact on profits if there is an unexpected rise in expenses. It also helps in deciding the appropriate level of crop insurance coverage needed to meet expenses.

It is important to consider the impact of potential cuts in variable costs before implementing them. If cuts can be made with little or no effect on production, then they are beneficial. However, cutting too deeply might decrease production to the extent that it offsets the savings from reduced variable costs. For example, if the Galls were to cut their fertilizer bill in half, they would likely face a significant decrease in crop yields as well.

It is important to take steps to reduce the potential variability of these costs where possible, by obtaining bids, through forward contracting, and via other strategies that lock in costs as much as possible. Ensure that any cost cuts are sustainable from a long-term perspective.

Value per Unit

Increasing the value per unit produced is often the most cost-efficient way to boost profit in a farming or ranching operation. For example, implementing a well-thought-out marketing plan for selling grain can yield substantial returns with fewer costs than trying to increase production or production per unit.

For example, assume the Galls implement a marketing plan that results in an increase of \$0.50 per bushel on their irrigated and dryland corn crops. The direct effects can be seen

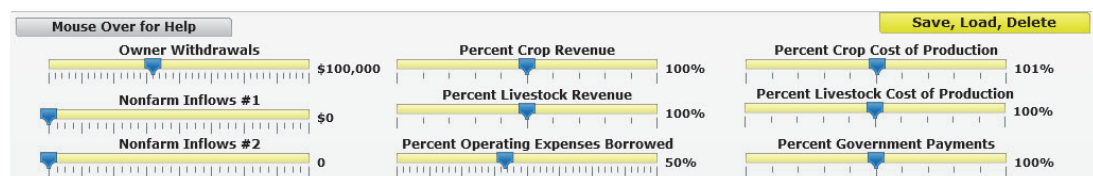
acreage is available, we can enter the change in acreage in the input tab to see its effect on the financial statements. As shown in the comparison of the income and owner equity statements, farming an additional 250 acres of irrigated corn results in an increase of \$56,017, Figure 3.

Production/Unit

Closely related to increasing total production to boost profit is the concept of increasing production per unit. In the Gall’s example, this would mean striving to increase yields per acre. It is important to be realistic when making assumptions about increasing production per unit. For instance, while the Galls would significantly increase their revenue if irrigated corn yield rose to 280 bushels per acre, this yield level is likely not realistic.

RD Financial offers several ways for users to view the effects of a yield increase on overall profitability. By selecting “Crop Prices and Yields” from the top right menu, users can adjust the yield per unit of the selected crop and observe its effects on the financial statements, financial ratios, or credit scoring; results are found under separate tabs. Suppose the goal is to increase the average irrigated corn yield to 220 bushels per acre. This would raise the overall net income to \$141,741, up from \$106,741 at 200 bushels per acre,

Figure 5. RD Financial Adjustments for Owner Withdrawals and Other Factors



using the crop yields and prices section of RD Financial while viewing the financial statements page. By adjusting the corn price up to \$4.50 per bushel, total net income rises to \$166,078 from \$106,741, Figure 6.

Figure 6. RD Financial Adjustments for Crop Sale Prices

Crop Name	WW-Fallow	Corn-Dry	Corn-Irr	Fallow
Price Per Unit	\$5.75	\$4.00	\$4.00	\$0.00
Yield Per Unit	35.0	50.0	200.0	0.0

Enterprise Mix

An important aspect of profitability is how the various enterprises within a business align or possibly compete for resources. An enterprise analysis using RD Financial can demonstrate the inherent profitability of an enterprise mix and identify potential areas for change or improvement.

In this example, the wheat-fallow system poses a significant financial burden for the Galls, as half of their total acreage is left fallow each year. These fallow acres do not generate revenue, yet they contribute to operational costs through both cash expenses and lost revenue opportunities, as highlighted in the expense and revenue sections. To mitigate these issues, it may be necessary to explore alternative crop rotations, provided that other options are viable given the limited soil moisture. It's important to note that assessing crop rotations should be done over multiple years, as it's not as simple as just replacing fallow acres with crops, especially when soil moisture is scarce.

Overhead Costs

Overhead or fixed costs can be challenging for many producers to manage. It is not uncommon for agricultural businesses to generate an operating profit but struggle to cover all fixed costs. Regular analysis is necessary to ensure that expenses like equipment purchases or cash withdrawals for family living do not severely impact business profitability.

Figure 7. Potential Machinery Purchase Effects on Profit

Introduction		Enter Data		Financial Statements		Ratios		Credit Scoring		Asset Purchase/Contribution/Distri...	
Balance Sheet		Assets		Liabilities		Income Statement - Accrual Adj.		Income			
	Beginning	Ending		Beginning	Ending						
Cash on Hand	25,000	39,081	Accounts Payable (Exo)	0	0	Cash Income (Net of cull bsk sales)		\$609,453			
Cross Held for Feed (Exo)	0	0	Accrued Interest (Exo)	12,540	15,826	Non-Cash Income Adjustments		0			
Cross Held for Sale (Inc)	200,000	200,000	Current Principal	11,908	19,059	Non-Cash Income (Raised Brds Livst)		0			
Market Livestock (Inc)	0	0	Other Current Liability (Exo)	10,000	10,000	Capital Gain/Loss on Breeding Livst (Net)		0			
Other Current Assets (Incl)	15,000	15,000	Short Term Notes (Exo)	0	0	Gross Revenue		\$609,453			
Invest Growers Cross (Exo)	0	0	Def. Tax on Current Assets	0	0	Expense					
Succ & Preadv Exo (Exo)	10,000	10,000	Operational Loan Carryover	0	0	Cash Expense (Excluding Interest)		444,913			
Total Current Assets	250,000	294,081	Total Current Liab.	34,448	44,885	Non-Cash Feed Inventory Adjustment		0			
Non-Current Assets			Non-Current Liabilities			Other Non-Cash Non-Interest Expense		0			
Mach. & Equipment	325,000	412,500	Prin. on T.D. & C.L.	255,399	292,590	Depreciation (Land, Bldgs, Equip.)		49,500			
Breeding Livestock	0	0	Def. Tax on Long Term Assets	0	0	Total Operating Expense		494,413			
Real Estate (Land & Bldgs. Inc)	1,040,000	1,038,000	Total Business Liab.	289,847	337,475	Cash Int. Exp. - T.D. & C.L.		12,540			
Total Business Assets	1,615,000	1,714,581	Business Net Worth	1,325,153	1,377,106	Cash Int. Exp. - Operatino		7,261			
			Change in Equity From Beginning to End of Year		51,953	Non-Cash Interest Expense		3,287			
Cash Flow Statement		Inflows		Outflows		Total Expense					
Crop Sales & Net Insurance Payments	579,608	Cash Expenses	No Interest	444,913	Net Business Income From Operations		91,953				
Mint & Cull Livestock Sales	0	Other Cash Business Outflows/Expense	0	0	Net Business Income		91,953				
Livst Secondary Product Sales	0	Cash Int. Exp. - T.D. & C.L.	12,540	12,540	Income-SS+Ow/ Tax-Cash & Non-Cash		0				
Government Payments	29,845	Cash Int. Exp. - Operatino	7,000%	7,261	Net Income		\$91,953				
Other Cash Business Inflow/Income	0	Loan Prin. Payments - T.D. & C.L.	11,908	11,908	Statement of Owner Equity						
Operating Loan Proceeds	30%	207,457	Breeding Livestock Asset Purchases	0		Beginning Net Worth (CostMkt)		1,325,153			
Loan Proceeds Capital Assets	55,250	Mach. & Equip. & Real Estate Purchase	75,000	75,000	Net Income		91,953				
Non-Business Inflows/Revenue	0	Owner withdrawals	100,000	100,000	Non-Business Cash Inflows		0				
Other Nonfarm Inflows	0	Cash Taxes Paid (Income & SS)	0	0	Owner Withdrawals (Cash)		-100,000				
Other Nonfarm Inflows	0	Other Cash Outflows (Not Expenses)	0	0	Asset Valuation Change/Cont./Distrib.		0				
Total Cash Inflows	\$873,160	Subtotal	\$651,622	\$651,622	Calculated Endino Net Worth		1,317,106				
*T.D. = Term Debt; C.L. = Capital Lease		Operating Loan Prin. Payments	\$287,457	\$287,457	Reported Endino Net Worth (CostMkt)		1,377,106				
		Total Cash Outflows	\$850,070	\$850,070	Discrepancy		(\$60,000)				
		Annual Net Cash Flow (never = zero)	39,081	39,081							
Save, Load, Delete											
	Purchase Price or Value of Asset	Depreciation on Assets Purchased This Year	Year End Asset Value Adjustment + Contribution - for Distribution	Percent Purchased Asset that is Financed	Loan Proceeds Received	Additional Ending Principal	Additional Ending Interest	Added End Next Yr	Added Principal	Added Interest	
Machinery & Equipment	\$75,000	\$15,000	\$60,000	75%	\$56,250	(\$6,500)	(\$3,938)	(\$6,955)	(\$3,483)	(\$0)	
Real Estate (Land & Buildings)	\$0	\$0	\$0	0%	\$0	\$0	\$0	\$0	\$0	\$0	
Breeding Livestock	\$0	\$0	\$0	0%	\$0	\$0	\$0	\$0	\$0	\$0	
Reset Print Cash Income Toggle Off/On Deferred Taxes Off/On Income Tax Off/On											

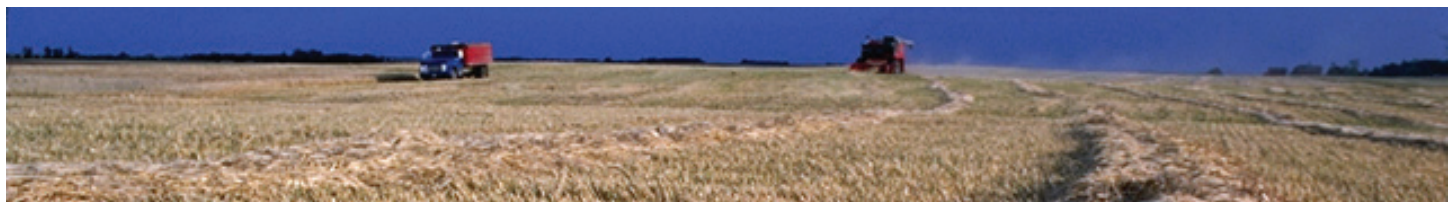
In this example, the owners are withdrawing \$100,000 as a return to management, leaving little net income remaining. Any future increase in this level of withdrawal should be offset by an increase in profit. Careful planning is required when considering purchases that could increase fixed costs, such as machinery.

In our example, we use the asset purchase/contribution tab to evaluate the effects of a large machinery purchase on the Galls' financial statements. Assume they purchase a tractor for \$75,000, financing 75 percent of the cost and incurring \$15,000 in depreciation. This purchase would lower the net income to \$91,953, causing the Galls to withdraw more than their net income unless other adjustments are made.

Summary

Using RD Financial can help producers better understand how changes to each of the six factors of profit can affect their overall net income. It is important to remember that, due to space constraints, we cannot demonstrate all the various levels of analysis possible for our example operation using the comprehensive RD Financial tool.

For example, one feature we did not explore is the credit rating tab. Under this tab we could learn more about how the tractor purchase outlined above would be evaluated in a typical operating loan application scenario. Additionally, we did not delve into the various ratios used to assess the operation and its business performance.



* The Gall operation is a case study example created to demonstrate RightRisk tools and their applications. No identification with actual persons living or deceased, places, or agricultural operation is intended nor should be inferred.

