

BARNYARDS & BACKYARDS

Risk tool analyzes individual enterprises

Enterprise diversification is a common strategy used by managers of Wyoming farms and ranches for many reasons.

Diversification is often one of the simplest and most effective forms of risk management. Multiple enterprises can spread production risk (not placing all your eggs in one basket) and can lower costs by complementing each other, such as raising your own hay for livestock instead of purchasing from outside sources.

Knowing how these enterprises fit together in the overall farm or ranch business picture is important for business managers. Producers have a tendency to evaluate operations as a whole instead of examining each enterprise on its own by allocating all associated revenues and expenses.

Enterprise analysis outlines the profitability of each enterprise and its overall effect on net income when completed correctly. In addition, this type of analysis describes how each enterprise compares to others in terms of profitability, resource use, as well as break-even values showing where to cut costs and further manage risks.

ERA Tool from RightRisk.org

The Enterprise Risk Analyzer (ERA) is a spreadsheet-based tool that allocates farm and ranch expenses and income accurately across all enterprises and properly analyzes results.

Users first identify the individual enterprises in the business and allocate expected yields and associated prices. A unique feature of the ERA tool accounts for the inherent risk involved with projecting prices and yields by encouraging the user to enter a range of expected values (maximum, minimum, and most likely).

Users next enter all Internal Revenue Service Schedule F data into the tool to begin the process of allocating to each enterprise. ERA was designed to make the allocation process as easy as possible. While cash expenses such as seed, fertilizer, and feed are relatively easy to identify for respective enterprises, the challenge becomes allocating other, general expenses (such as depreciation, taxes, fuel, and interest) to each enterprise.

Southeast Wyoming Farm Example

Jason and Melinda Collins' own a typical, diversified southeast Wyoming operation. They run a commercial cowherd of 180 head (160 head of cow-calf pairs, 15 head of replacement heifers, and 5 bulls) and irrigated farming enterprises raising alfalfa, corn for silage, and wheat. Most of their raised forage goes to feeding the cattle, and the Collins have been backgrounding their calves after weaning for four months before selling them.

Continues next page.

Table 1. ERA Enterprise List for the Collins Ranch.

Enterprise Titles	Enterprise Description	Number of Units	Enterprise Units (acres/head/cow)	Enterprise Type (crop or livestock)
Enterprise #1	Alfalfa Hay	200	acres	crop
Enterprise #2	Corn Silage	50	acres	crop
Enterprise #3	Wheat	50	acres	crop
Enterprise #4	Cow-calf	180	head	livestock
Enterprise #5	Calf Backgrounding	160	head	livestock

Table 2. Enterprise Yields and Prices for the Collins Ranch.

Stochastic Elements	Estimate	Yield per Enterprise Unit	Units (bu/ton/lbs)	Price per Unit	Expected Revenue per Enterprise Unit (most likely)
Alfalfa Hay	Minimum	3	tons/acre	\$ 65.00	\$ 425.00
	Most Likely	5		\$ 85.00	
	Maximum	6		\$ 120.00	
Corn Silage	Minimum	15	tons/acre	\$ 22.00	\$ 750.00
	Most Likely	25		\$ 30.00	
	Maximum	30		\$ 45.00	
Wheat	Minimum	50	bushels/acre	\$ 2.85	\$ 300.00
	Most Likely	80		\$ 3.75	
	Maximum	100		\$ 4.50	
Cow-calf	Minimum	400	pounds/head	\$ 1.45	\$ 875.00
	Most Likely	500		\$ 1.75	
	Maximum	625		\$ 2.00	
Calf Backgrounding	Minimum	100	gain/head	\$ 1.25	\$ 280.00
	Most Likely	200		\$ 1.40	
	Maximum	300		\$ 1.50	

Table 3. ERA Schedule F Income and Expenses for the Collin Ranch.

SCHEDULE F (Form 1040) - Profit or Loss From Farming		2011	
PART - I Farm Income - Cash Method.			
1a	Specified sales of livestock and other resale items	1a	202,300.00
b	Sales of livestock and other resale items not reported on line 1a	1b	10,000.00
c	Total of lines 1a and 1b	1c	212,300.00
d	Cost or other basis of livestock or other items reported on line 1c	1d	5,000.00
e	Subtract line 1d from line 1c	1e	207,300.00
2a	Specified sales of products you raised	2a	137,500.00
b	Sales of products you raised not reported on line 2a	2b	
3b	Cooperative distributions (Form(s) 1099-PATR) - taxable amount	3b	1,500.00
4b	Agricultural program payments - taxable amount	4b	4,000.00
5a	Commodity Credit Corporation (CCC) loans reported under election	5a	
c	CCC loans forfeited - taxable amount	5c	
6	Crop insurance proceeds and federal crop disaster payments		
b	Amount received in 2011 - taxable amount	6b	
d	Amount deferred from 2010	6d	
7a	Specified custom hire (machine work) income	7a	
7b	Custom hire income not reported on line 7a	7b	
8a	Specified other income	8a	
8b	Other income not reported on line 8a	8b	
9	Gross income. Add amounts in the right column (lines 1e, 2a, 2b, 3b, 4b, 5a, 5c, 6b, 6d, 7a, 7b, 8a, and 8b)	9	350,300.00

For more information

The Enterprise Risk Analyzer is just one of many tools available from RightRisk.org designed to account for risk and uncertainty.

The RightRisk Analytics toolbox contains risk analysis tools covering management planning such as forage leasing, machinery costs, and other forms of budgeting. Better accounting of risk and uncertainty in risk management planning should yield better decisions and results.

Visit RightRisk.org, select Risk Management tools from the Resources tab, and download the RightRisk Analytics (or one of the individual tools) today.

RightRisk
Enterprise Risk Analyzer

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How to get the most out of UW Extension

In the age of Google and YouTube, what does your local University of Wyoming Extension educator have to offer that can't be found with a quick internet search?

Gone are the days of relying on the local county agent to mail the latest bulletins or stop by the farm to promote a new variety of alfalfa or vaccination program.

Agriculture has become highly specialized, and information is readily available to anyone with an internet connection. With purchase of technology and inputs comes access to agronomists, nutritionists, and other specialists. It often makes more sense to call them instead of your local extension educator for specialized information.

So what can we offer?

1. We may not be experts on the topic you are looking for, but we know where to find the experts! We have access to the most current research coming out of universities and can connect you directly with the researchers. We all have different specialties, from soil and livestock, to horticulture and irrigation. If we don't know the answer, we know who does. We rely heavily on our professional networks to track down people or information we need and can leverage that to your advantage.

The university and USDA research system in this country produces an incredible amount of information that is useful to ag producers and the general public. Unfortunately, much of that does not make it beyond academia. We can help you access that research, make sense of it, and use it.

2. As extension educators, we are dedicated to providing research-based information that will help people make better decisions. We can help sort through the overwhelming amount of information available, identify credible sources, and

figure out how to use it to your advantage. Compared to industry, public research is slow, but that is also part of our strength. We are not trying to sell you anything.

3. We can help set up simple research programs on your farm or ranch to answer the questions YOU want answered! Is there a new soil amendment or nutrition supplement someone is trying to sell you? We can work with you to set up a controlled trial and figure out what its worth in your system under your conditions. Sometimes we can find grant funds to offset the cost of research trials or work with manufacturers to get products at no cost.

4. We can create educational programs to meet local needs. Is there a subject you would like to learn more about, or an expert or innovator you would like to hear from? We can bring in speakers, organize workshops, and host field days and farm tours.

5. We have access to a skilled diagnostic team made of UW researchers and specialists. If you need to identify a weed or insect, or diagnose a plant or animal disease, we can help. And sometimes all it takes is a photo!

We are here and would love to help you succeed in your chosen endeavors. So, reach out and see what your extension educator can do for you.

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Evaluating enterprises, continued

They have two main concerns they are hoping to address using the ERA tool: First, they would like to determine if their cropping mix is efficient for their needs: is it profitable to produce their own feed or should they buy it? Second, is the irrigated wheat enterprise profitable on its own, or should they consider switching to a forage crop following silage corn?

We begin by entering their information under the ERA general tab. Note that this example has been simplified for illustrative purposes – likely, more information would be available for an operation of this type.

The Collins' crop mix is 200 acres of alfalfa hay, 50 acres of corn silage, 50 acres of wheat following silage, and the cow-calf and backgrounding livestock enterprises, Table 1.

Next, we enter the expected prices and yields for each enterprise in the form of expected value (most likely) and maximum and minimum values for each enterprise price and yield. Most of their crop yields are contingent on the amount of irrigation water available and are based on their yield history. Alternatively, calf weights are dependent on rainfall and other weather-related factors.

ERA calculates an expected value per unit for each enterprise based on the most likely value for yields and price. In the livestock enterprises, we will focus on the calf values at weaning (pounds/head) for the cow-calf enterprise and the gain per head for the calves in the backgrounding enterprise, Table 2.

The next step is to enter the Collins' information into the Schedule

F section of the ERA. The tool automatically fills revenue items based on the information entered under the general tab. In addition to the revenue items on line 1b, we enter \$10,000 for the sale of cull cows and bulls throughout the year, along with a cost basis of \$5,000. The Collins also reported a dividend of \$1,500 and government payments of \$4,000.

On the expense side, they enter general expense amounts in Schedule F. The Collins have no employees other than part-time harvest help (\$5,000) and lease some machinery (\$10,000) in addition to the other expenses entered, Table 3.

In the next installment, we will demonstrate how to allocate the revenue and expenses to individual enterprises and consider the net

income analysis available from the Enterprise Risk Analyzer.

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

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