RightRisk™

Estimating cost of production & Tools for risk assessment

Klamath Basin Research and Extension Center

Oregon State University

The USDA's Risk Management Agency and OSU KBREC
invite you to learn strategies for better managing risks in your operation.
Participate in Estimating Cost of Production: to estimate enterprise cost of production, breakeven prices and risk exposure using RightRisk enterprise analysis tools.

Program #1

Thursday, April 3rd 2014
10:00 a.m. - noon
Klamath Community College - Bldg #6 Rm H138
7390 South 6th Street, Klamath Falls OR

☑ **Ag Risk-5 and tools available for managing risk on Farms and Ranches in Oregon**
John Hewlett, Ranch/Farm Management Specialist, University of Wyoming

☑ **Estimating Breakeven Cost of Production for Your Operation**
John Hewlett, Ranch/Farm Management Specialist, University of Wyoming

Program #2

Thursday, April 3rd 2014 - 2:00 to 3:30 p.m.
Klamath Community College - Bldg #6 Rm H228

☑ **Tools to Evaluate Risk for Your Enterprises & Entire Farm: The Enterprise Risk Analyzer, and More . . .**
Jay Parsons, Risk Management Specialist, Colorado State University

☑ **Wrap up: Where do we go from here?**
John Hewlett and Jay Parsons

How Much Risk Is Right For You?

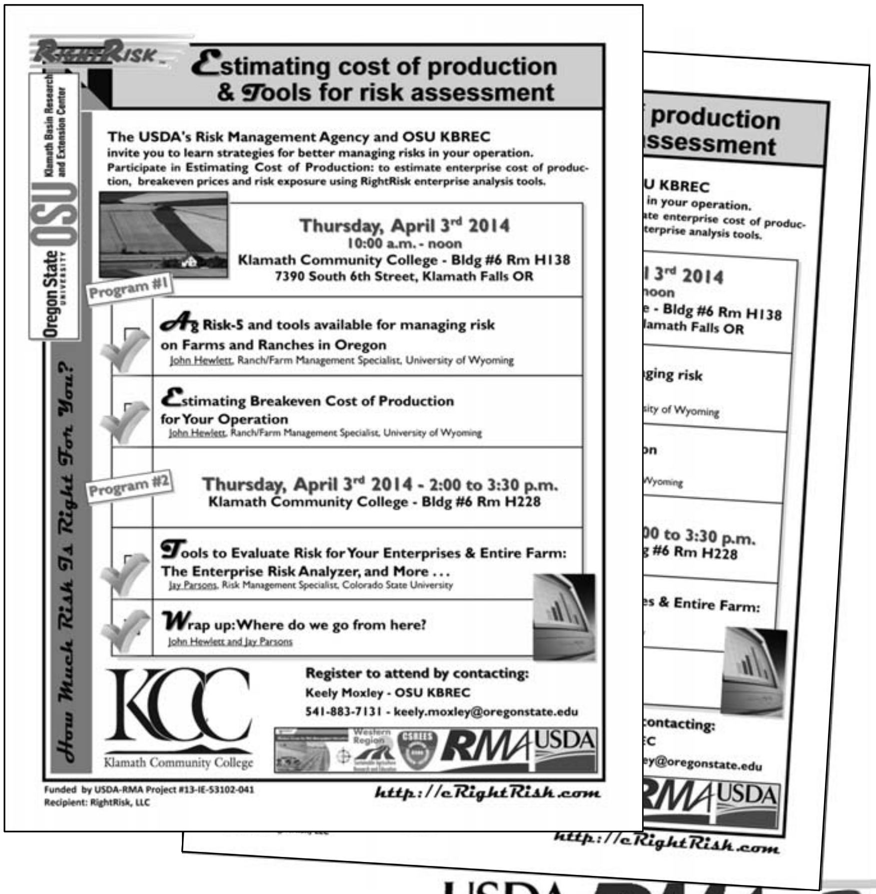
Klamath Community College

Register to attend by contacting:

http://Oregon.eRightRisk.com

Funded by USDA-RMA Project #13-IE-53102-041
Recipient: RightRisk, LLC

http://eRightRisk.com



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How Much Risk Is Right For You?

Oregon State University
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Register to attend by contacting:
Keely Moxley - OSU KBREC
541-883-7131 - keely.moxley@oregonstate.edu

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John P. Hewlett
University of Wyoming

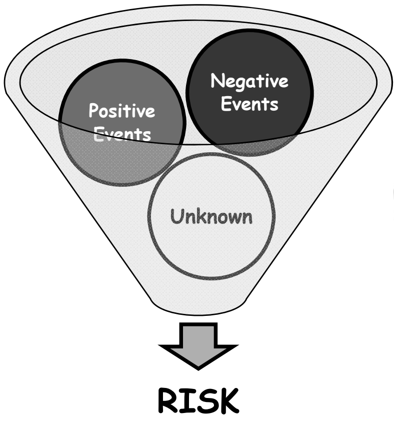
Jay Parsons
Colorado State University

Sources of Risk in Agriculture – *Ag Risk 5*

1. Marketing/Price Risk
2. Production Risk
3. Institutional/Legal Risk
4. Human Risk
5. Financial Risk

What is RISK?

- **Cost of Loss**
  - *Income*
  - *Resources*
  - *Productive capacity, etc.*
- **Cost of Uncertainty**
  - *Worry, doubt, fear, misallocation of resources, etc.*
  - *With potential for gain or loss comes moral or ethical implications*



Positive Events

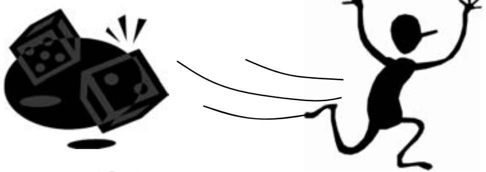
Negative Events

Unknown

RISK

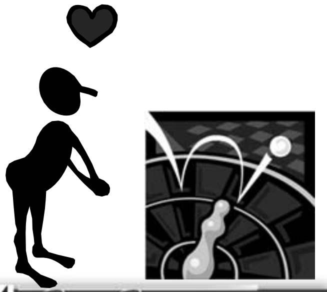
Types of Risk Preference

Risk Averse



Risk Neutral

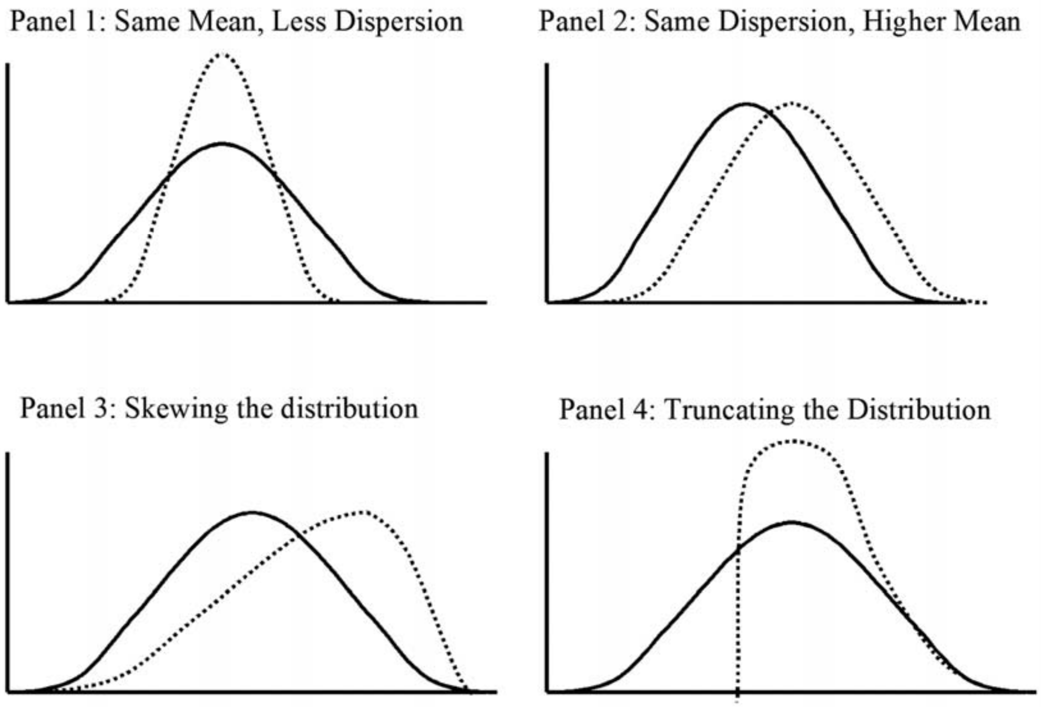
Risk Loving



Strategies for Managing Risk

1. **Avoid it**
2. **Reduce it**
   a) Reduce the probability it will happen
   b) Reduce the impact if it does happen
3. **Transfer it outside the business**
   a) Insurance
   b) Contracting
4. **Increase capacity to bare**
   a) Increase reserves
   b) Maintain flexibility
5. **Accept it**

Strategy Impacts



Questions?

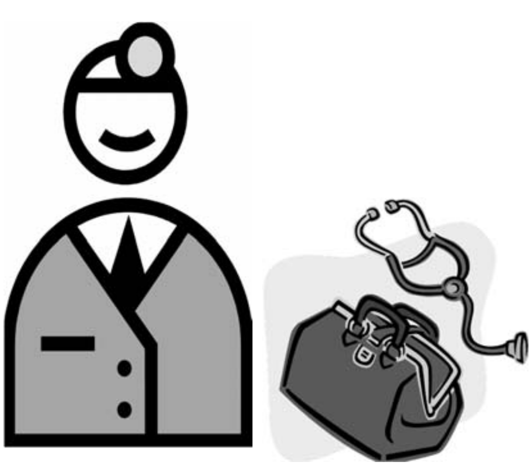
John P. Hewlett
University of Wyoming

Jay Parsons
Colorado State University

Agricultural
Financial Management - 301

ESTIMATING BREAKEVEN COST OF PRODUCTION: ENTERPRISE ANALYSIS

GOT FINANCIAL HEALTH?

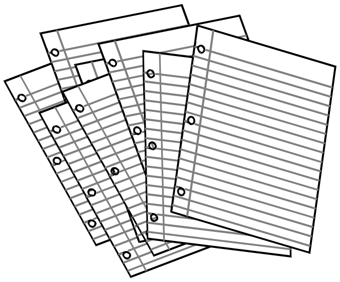


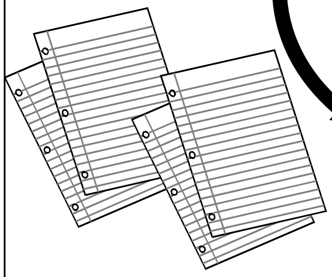
WHAT KEY FACTORS DETERMINE FINANCIAL HEALTH?

- Is it a positive Cash Flow
- A large Net Worth
- Paying no taxes to reduce cash outflows
- Lots of family labor (good hard work)
- Location
- Positive Net Income
- ?
- ?
- ?

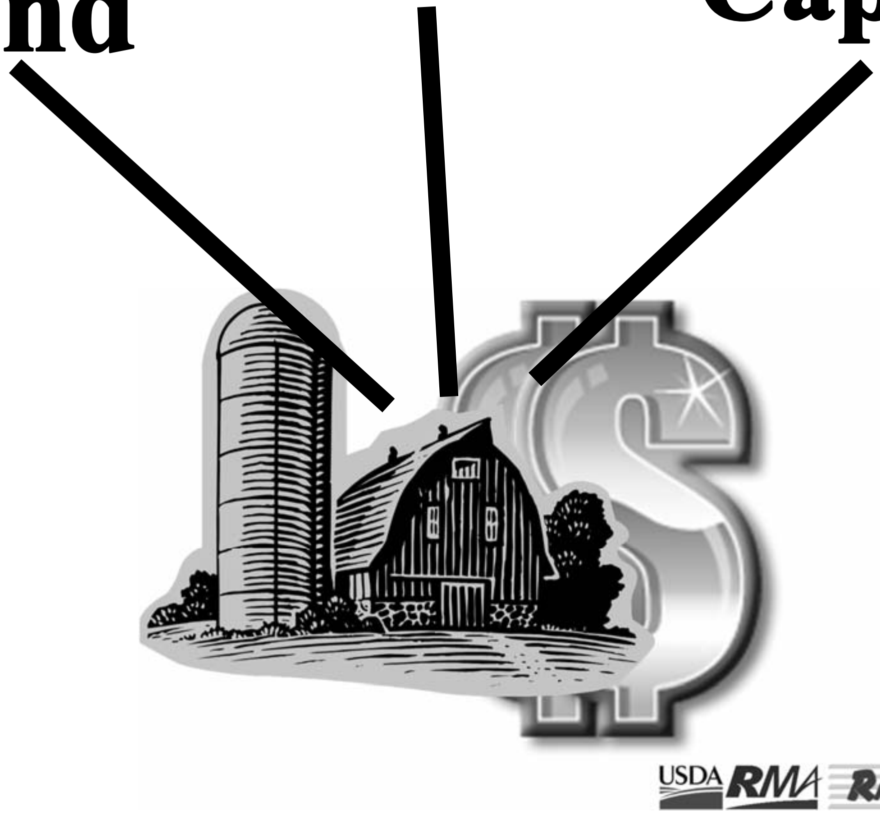
IF YOU CAN’T
MEASURE IT,
YOU CAN’T
MANAGE IT!!

Monitoring
Enterprises and Resources





- Financial Records
- Financial Statements
- Financial Analysis



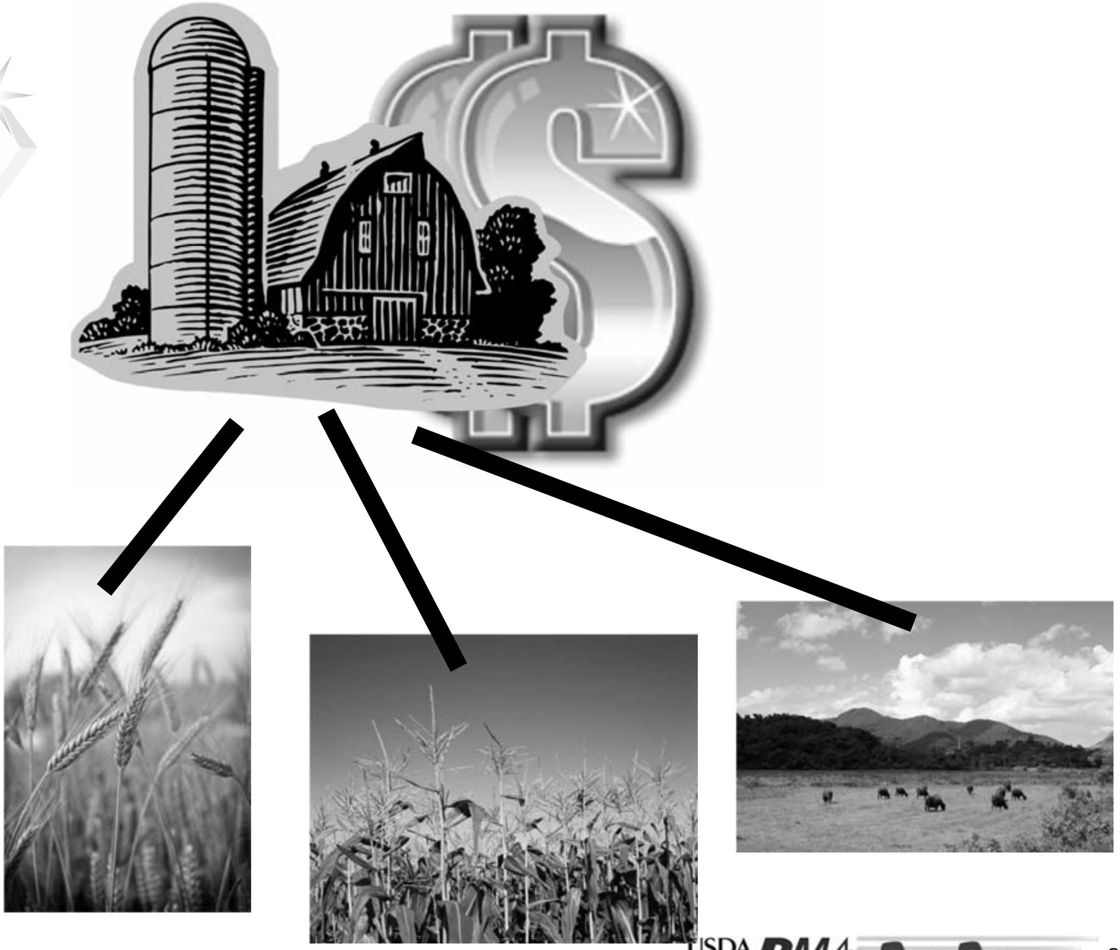
Land

Labor

Capital

Enterprise

An activity or process engaged in by a business which has some element of risk and uncertainty and which generates one or more saleable products.



Enterprise Profitability

- Whole-farm profitability is derived from *enterprise profitability*
- One enterprise may be profitable but another may have only marginal profitability or may have costs greater than returns

Enterprise Profitability *cont.*

- Estimates require information from **past** financial statements or records
- Can help management decide where to make adjustments in the crop or livestock mix

BUDGET

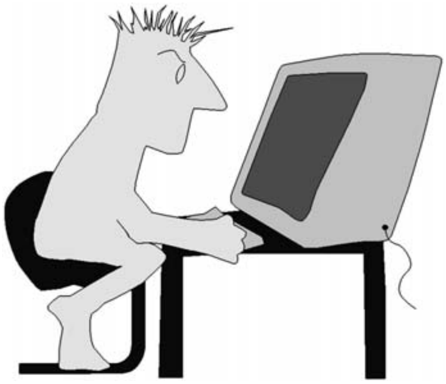
- A budget is a list of all expected income and expenditures for a plan or enterprise. It is prepared for a future period of time, usually a year.

Types of Budgets

- Whole farm/complete budgets
- Enterprise budgets
- Cash flow budgets
- Partial budgets

ENTERPRISE BUDGET

- Projection of returns and costs associated with a specific enterprise for a specified time period.



Issues In Developing Cost of Production

- Source
- Cost Allocation
- Terminology
- Cost Classification

Issues In Developing Cost of Production

- Source
  - Records vs. Estimated
- Cost Allocation
- Terminology
- Cost Classification

Issues In Developing Cost of Production

- Source
- Cost Allocation
  - Complete vs. Enterprise Budget
- Terminology
- Cost Classification

Issues In Developing Cost of Production

- Source
- Cost Allocation
- Terminology
  - Cost of Production Estimates
  - Enterprise Budgets
  - Costs and Returns Estimates
- Cost Classification

Issues In Developing Cost of Production

- **Source**
- **Cost Allocation**
- **Terminology**
- **Cost Classification**
  - **Cash vs. Non-Cash**
  - **Direct vs. Indirect**
  - **Variable vs. Fixed**
  - **Operating vs. Ownership**
  - **Accounting vs. Economic**
  - **Expendable vs. Capital**
  - **Historic vs. Projected**
  - **Individual Farm vs. Composite Farm**

Revenue:

- ***The receipt of cash or other resources in exchange for goods or services provided.***
  (Cash + Non-Cash)

- *Income:*
  Usually used to describe "net of revenues and expenses"
  (Revenue – Expenses = Net Income)

Expense:

- ***The cost of goods sold by a business entity or services rendered to it in the process of generating revenue. (Cash + Non-Cash)***

- *Cost:*

  A measurable sacrifice of resources exchanged for goods or services. A cost may or may not be an expense. (land)

COST: land

Assets	Ownership

COST: land

- Asset (cash) ↓
- Asset (land) ↑

Assets	Ownership
Cash	
	Owner Equity
Land	

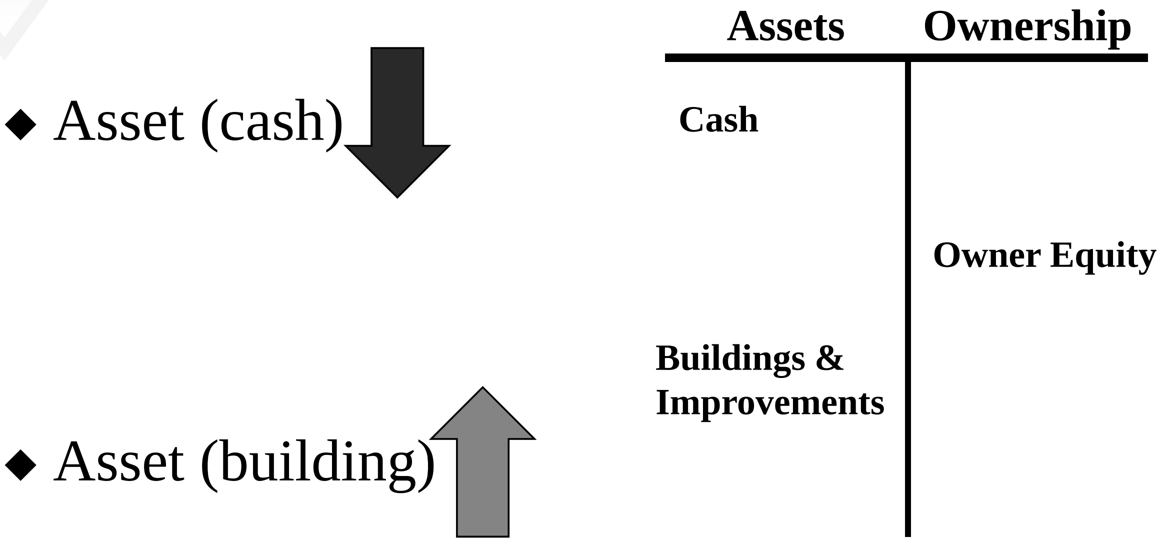
COST: land

- Asset (cash) ↓
- Asset (land) ↑

Assets	Ownership
Cash	
	Owner Equity
Land	

Cash or Non-Cash Transaction?

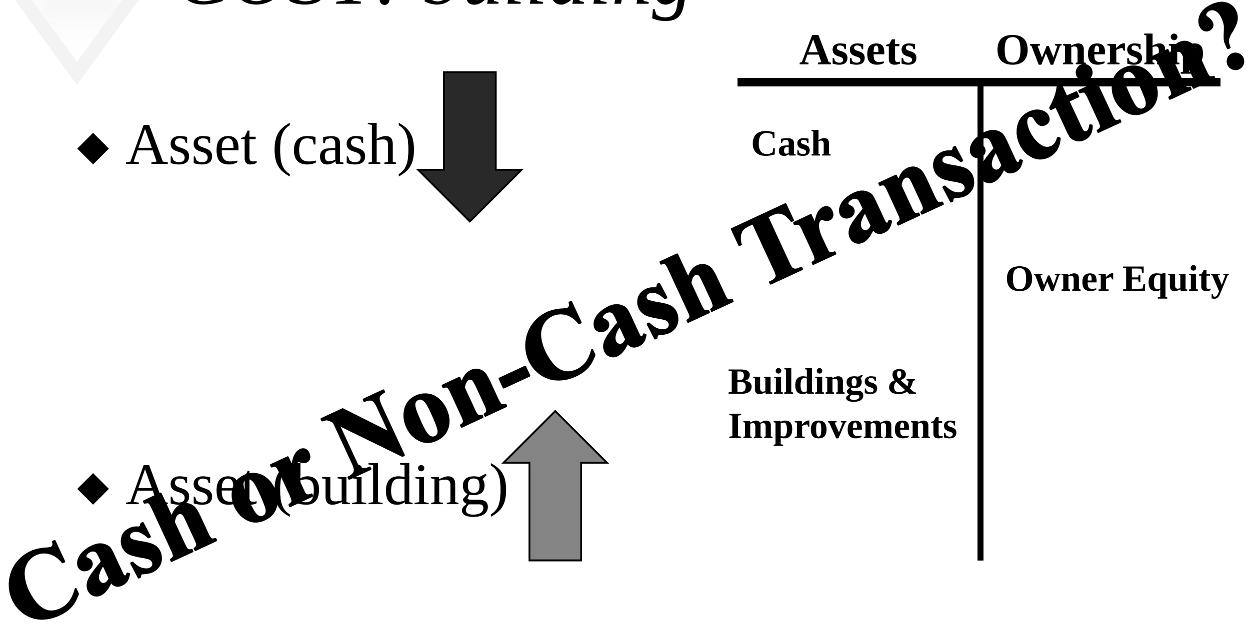
COST: building



- Asset (cash)
- Asset (building)

Assets	Ownership
Cash	
	Owner Equity
Buildings & Improvements	

COST: building



- Asset (cash)
- Asset (building)

Assets	Ownership
Cash	
	Owner Equity
Buildings & Improvements	

Cash or Non-Cash Transaction?

Expense: building

Assets	Ownership

- Asset (building)

  Beginning Balance

Expense: building

- Asset (building)

  Beginning Balance

  - Depreciation Expense

  = Ending Balance

Assets	Ownership
Buildings & Improvements B.Balance - Depreciation = E.Balance	

Expense: building

- Asset (building)
  Beginning Balance
  - Depreciation Expense

  = Ending Balance
- Owner Equity
  - Depreciation Expense
  = Ending Equity Balance

Assets	Ownership
Buildings & Improvements	**Owner Equity**
B.Balance	- Depreciation
- Depreciation	= Ending Owner Equity
= E.Balance	

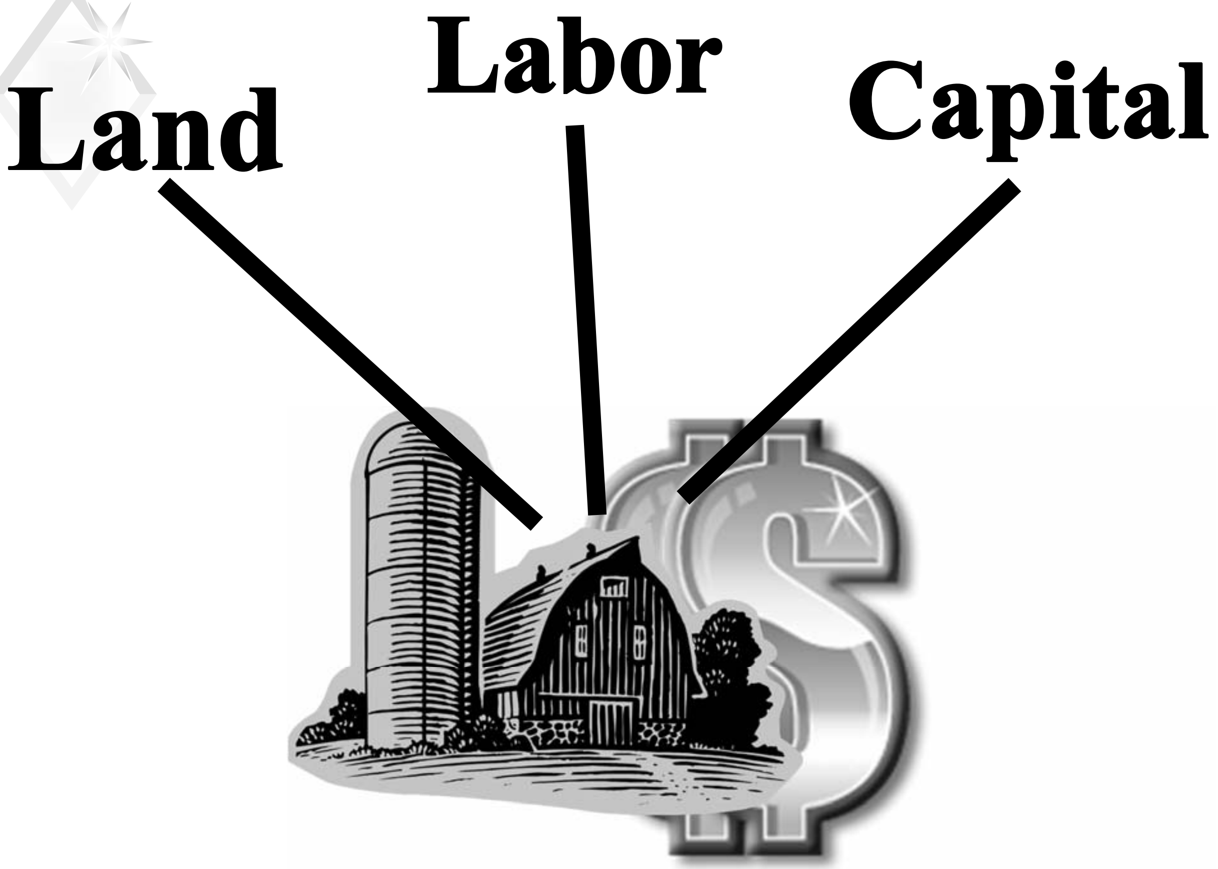
Expense: building

- Asset (building)
  Beginning Balance
  - Depreciation Expense

  = Ending Balance
- Owner Equity
  - Depreciation Expense
  = Ending Equity Balance

Assets	Ownership
Buildings & Improvements	**Owner Equity**
B.Balance	- Depreciation
- Depreciation	= Ending Owner Equity
= E.Balance	

Cash or Non-Cash Transaction?



Land

Labor

Capital

Production Costs:

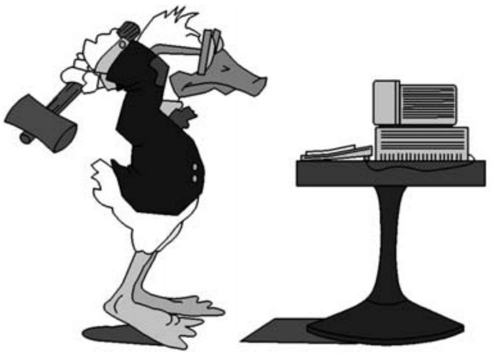
- **1. Economic Costs**
  Cost attributed to all resources, including equity capital and operator/family labor and management.

- **2. Financial Costs**
  Cost attributed to all resources, except equity capital and operator/family labor and management.

- **3. Cash Costs**
  Only cash expenditures are considered, including principal and interest on term debt and personal withdrawals. Depreciation and interest on equity are excluded.

Information For Developing A Complete (Whole Farm) Budget

- Crops and Yields
- Livestock and Products Sold
- Expected Prices
- Other Income
- Cash Expenses
- Other (General Expenses)
- Schedule of Debt Payments
- Depreciation & Annual Family Living Expenses



COMPLETE BUDGET PLAN #1 - ANDY'S FARM

Item	200 Acres Corn	100 Acres Soybeans	2 Groups Feeder Pigs	Non-allocated Items	**Total**
Income					
Ordinary income	$42,912	$30,000			
Capital gains					
Miscellaneous				$ 800	
Total income	$42,912	$30,000		$ 800	
Expenses					
Seed, crop supplies	3,024	1,050			
Fertilizer and chemicals	12,578	2,870			
Purchased feed					
Purchased livestock					
Breeding, veterinary, and livestock supplies					
Marketing cost					
Fuel, oil and utilities }	4,963	1,491			
Machinery repairs }					
Other Repairs				2,000	
Insurance	1,800	750		800	
Real estate taxes				2,100	
Real Estate rent					
Hired labor				1,530	
Interest on operating loan	1,174	371			
Interest on intermediate and long-term loan				17,000	
Depreciation				18,699	
Miscellaneous				1,800	
Total expenses	$23,512	$ 6,532		$ 43,929	

ENTERPRISE BUDGET

MAJOR COMPONENTS

- Product produced
- Quantity produced
- Product price
- Resource used
- Quantity of resources
- Resource prices
- Expected revenue & expenses per enterprise unit
- Production system

Enterprise Budget Layout

Enterprise Returns:

Cash Returns-

Non-cash Returns-

Enterprise Costs:

Cash Costs-

Non-Cash Costs-

Enterprise Return Over Costs:

Cost of Production Estimates

ENTERPRISE*

Any coherent portion of the general input-output structure of the farm business that can be **separated and analyzed as a distinct entity**. Such an entity uses inputs and incurs costs while producing products or services

Commodity Costs and Returns Estimation Handbook

Cost of Production Estimates

ENTERPRISE RETURNS

Describes the yield, price received and total cash income per acre for each enterprise product produced.

Cost of Production Estimates

ENTERPRISE COSTS

A description of the various OPERATING and OWNERSHIP costs involved with the production of a particular product(s).

Cost of Production Estimates

OPERATING or VARIABLE COSTS

-Operating Inputs
-Fuel and Lubrication
-Repair and Maintenance
-Labor
-Interest on operating inputs

Cost of Production Estimates

OPERATING INPUTS

Items purchased and used in the production of the enterprise product(s).

Cost of Production Estimates

FUEL AND LUBRICATION

Gasoline, diesel, oil, filters, grease, and the necessary labor for fueling and lubricating machinery and equipment used in the production of the enterprise product(s).

Cost of Production Estimates

REPAIR AND MAINTENANCE

The cost for repair and maintenance which result from wear, part failure, and operator maintenance policies. This includes charges for both on and off-farm/ranch parts and labor.

Cost of Production Estimates

LABOR

Charges for day labor, hired labor, and owner/operator labor needed for the production of the enterprise product(s).

Cost of Production Estimates

INTREST ON OPERATING INPUTS

Interest charges resulting from borrowing operating capital for the purchase of operating input used in the production of the enterprise product(s).

Cost of Production Estimates

OWNERSHIP or FIXED COSTS

-Taxes
-Housing
-Insurance
-Depreciation
-Long-term Interest

Cost of Production Estimates

TAXES

Personal property taxes charges on the assets owned by the farm/ranch which are used in the production of the enterprise product(s).

Cost of Production Estimates

HOUSING

The cost of keeping machinery and equipment used in the production of the enterprise product(s) protected from the effects of weather.

If not kept in a building, housing represents the cost of exposure to the elements.

Cost of Production Estimates

INSURANCE

The cost of insuring the farm/ranch assets used in the production of the enterprise product(s) from loss. Loss can result from theft, fire, or vandalism.

Cost of Production Estimates

DEPRECIATION

Depreciation represents the decrease in value of the farm/ranch assets used in the production of the enterprise product(s) due to wear, age, and obsolescence.

Cost of Production Estimates

LONG-TERM INTEREST

Long-term interest charges represent the cost of capital invested in the assets needed in the production of the enterprise product(s).

Cost of Production Estimates

NET PROJECTED RETURN

The net return per acre of the enterprise. Calculated as:

TOTAL RETURNS - TOTAL COSTS

Oregon Cost and Returns Estimates

http://arec.oregonstate.edu/oaeb

CONSTRUCTING ENTERPRISE BUDGETS: practice session

COMPLETE BUDGET
PLAN #1 - ANDY'S FARM

Item	200 Acres Corn	100 Acres Soybeans	**2 Groups Feeder Pigs**	Non-allocated Items	**Total**
Income					
Ordinary income	$42,912	$30,000	**$108,063**		
Capital gains					
Miscellaneous				$ 800	
Total income	$42,912	$30,000	**$108,063**	$ 800	
Expenses					
Seed, crop supplies	3,024	1,050			
Fertilizer and chemicals	12,578	2,870			
Purchased feed			**11,369**		
Fuel, oil and utilities }	4,963	1,491	**1,419**		
Machinery repairs }					
Other Repairs			**160**	2,000	
Insurance	1,800	750	**200**	800	
Real estate taxes				2,100	
Real Estate rent					
Hired labor				1,530	
Interest on operating loan	1,174	371	**2,256**		
Interest on intermediate and long-term loan				17,000	
Depreciation				18,699	
Miscellaneous			**200**	1,800	
Total expenses	$23,512	$ 6,532	**$66,976**	$ 43,929	

HANDOUT

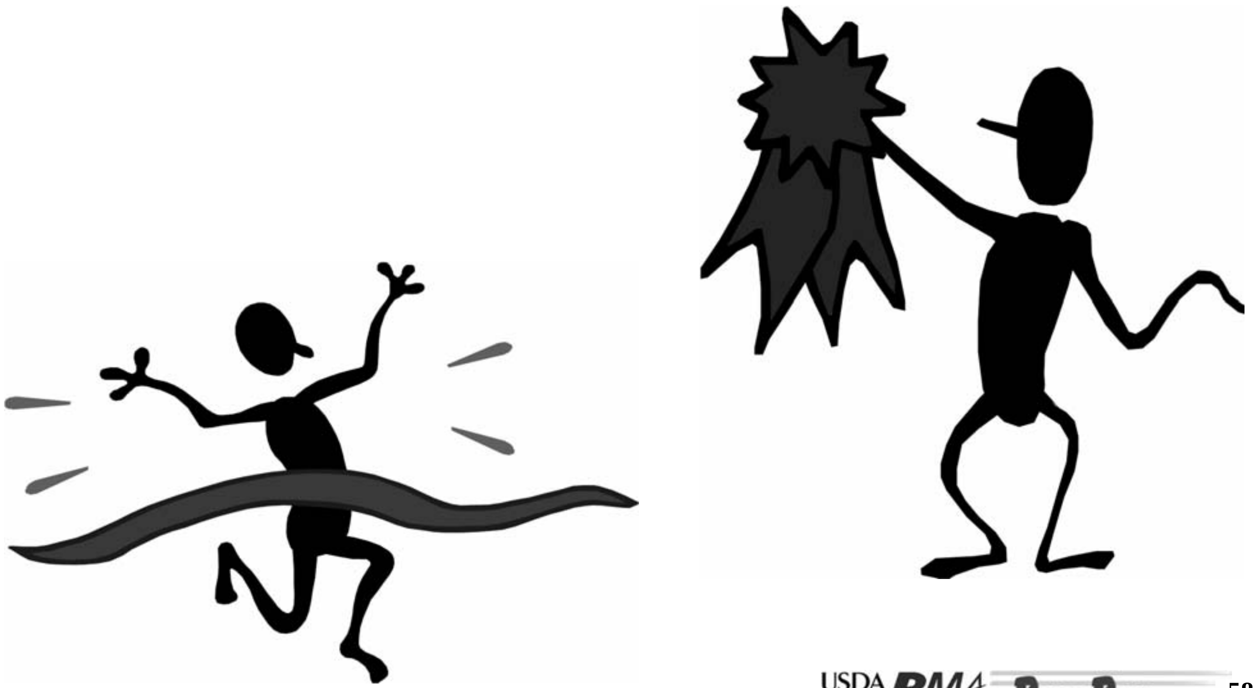
Revenue/Expense Allocation Approaches

- Per budget unit (acre/head/cow)
- Fixed percentage of total operation
- Enterprise relative percent of gross revenue
- Enterprise relative percent of gross expenses
- Enterprise relative percent of cash expenses
- Others(?)

COMPLETE BUDGET PLAN #1 - ANDY'S FARM

Item	200 Acres Corn	100 Acres Soybeans	**2 Groups Feeder Pigs**	Non-allocated Items	**Total**
Income					
Ordinary income	$42,912	$30,000	**$108,063**		
Capital gains					
Miscellaneous	189	133	478		
Total income	$43,101	$30,133	$108,541		
Expenses					
Seed, crop supplies	3,024	1,050			
Fertilizer and chemicals	12,578	2,870			
Purchased feed			**11,369**		
Purchased livestock			**47,083**		
Breeding, veterinary, and livestock supplies			**1,266**		
Marketing cost			**3,023**		
Fuel, oil and utilities }	4,963	1,491	**1,419**		
Machinery repairs }					
Other Repairs	480	140	1,540		
Insurance	1.992	806	752		
Real estate taxes	504	147	1,449		
Real Estate rent					
Hired labor	367	107	1,056		
Interest on operating loa	+ $ 367	+ $ 107	+ $ 1,056		
Interest on intermediate and long-term loan	4,080	1,190	11,730		
Depreciation	4.488	1.309	12.902		
Miscellaneous	432	126	1,442		
Total expenses	+ $ 432	+ $ 126	+ $ 1,242		
Net Income	**$ 9,019**	**$20,526**	**$11,254**		

Evaluating Enterprise Performance



Cost of Production Estimates

BREAKEVEN COST
OF PRODUCTION

Gross Returns

-Variable Costs

= Return to Fixed Factors

Cost of Production Estimates

GROSS MARGIN

Gross Returns - Variable Cost

If > 0 provides return to fixed factors (*short run*)

If = 0 then a trade off

If < 0 provides **NO** return to fixed factors

Cost of Production Estimates

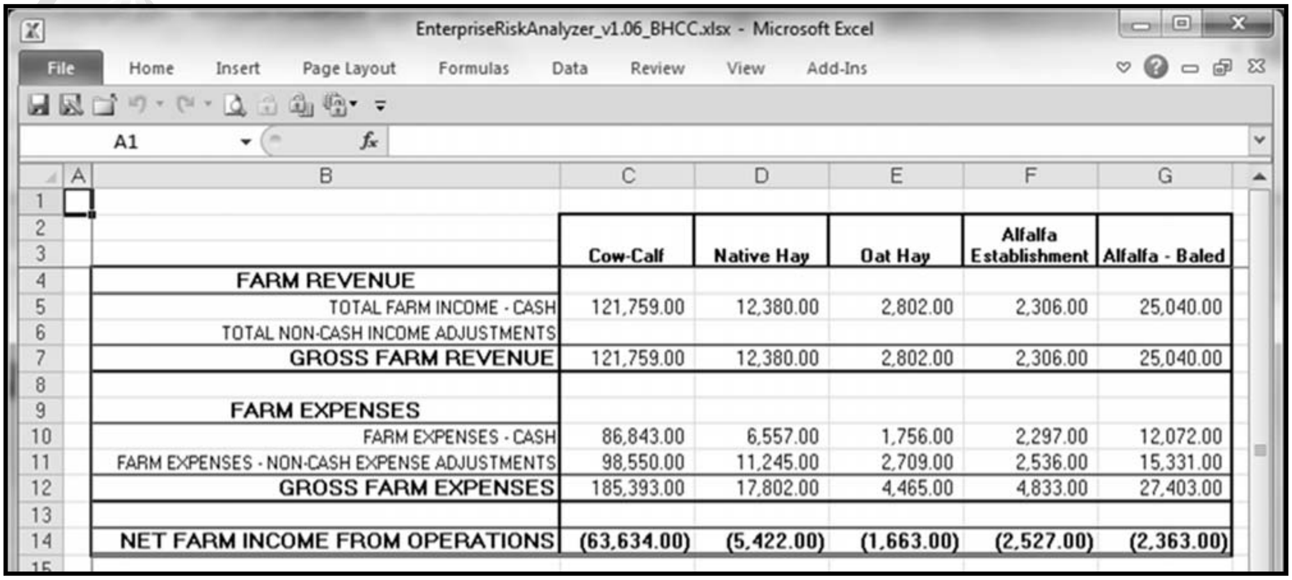
BREAKEVEN PRICE

Total Cost / Expected Yield

BREAKEVEN YIELD

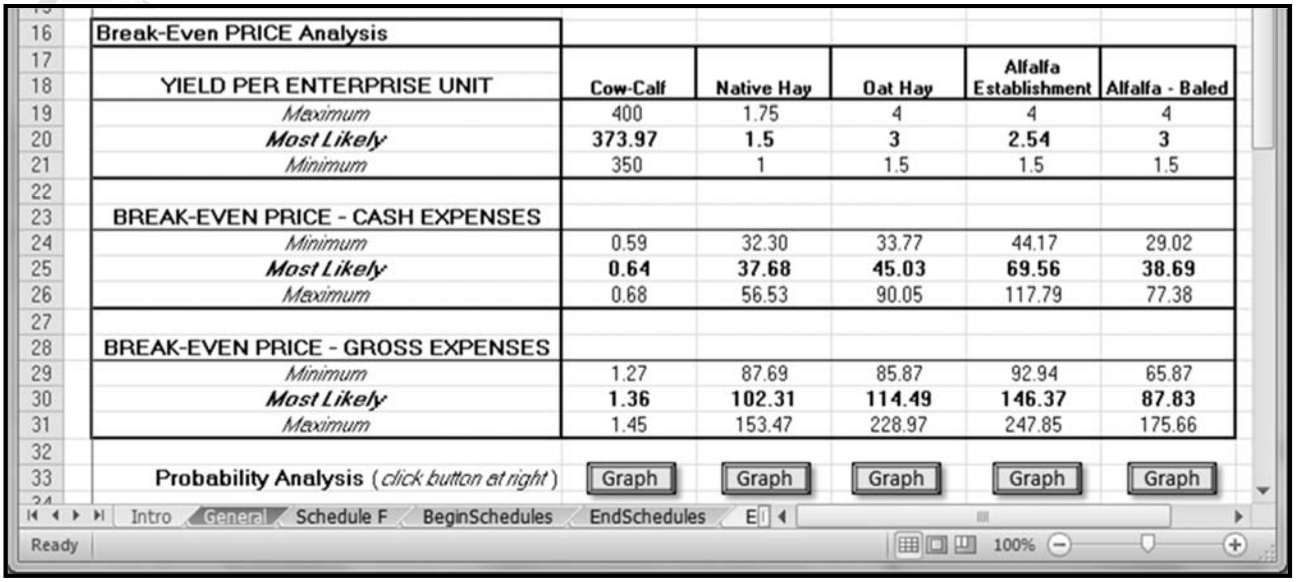
Total Cost / Expected Price

Enterprise Risk Analyzer



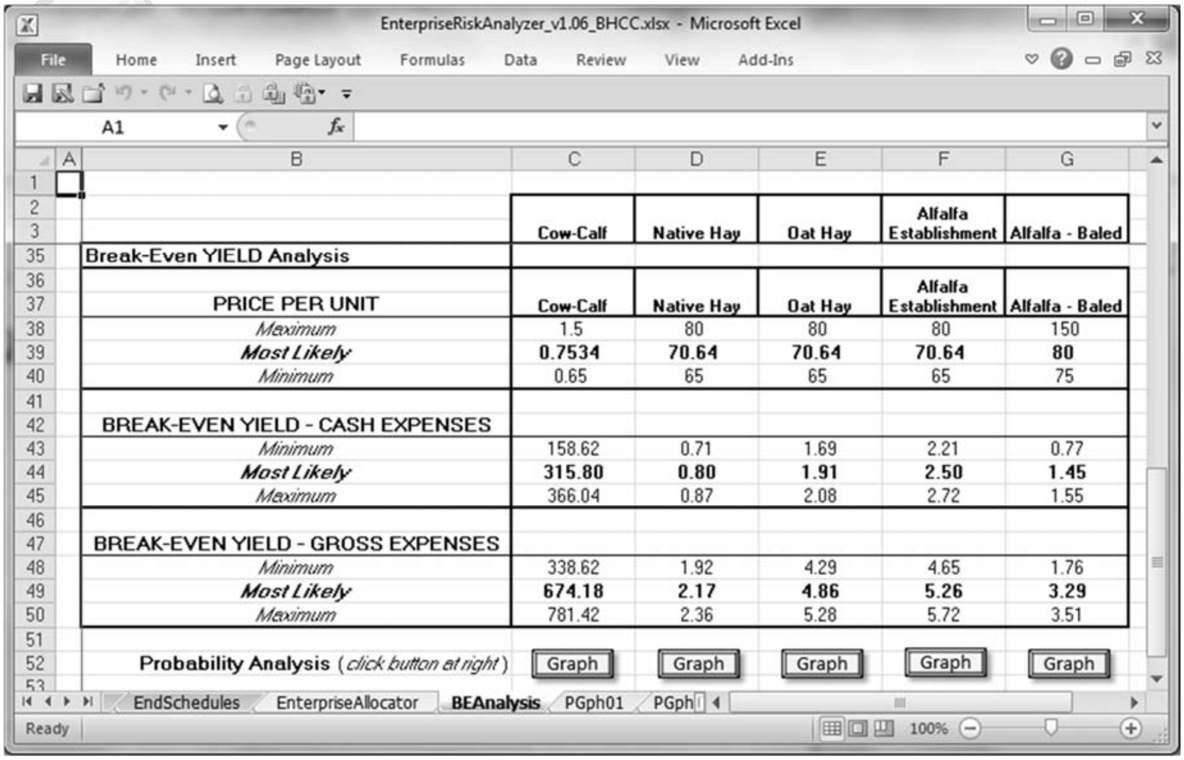
	Cow-Calf	Native Hay	Oat Hay	Alfalfa Establishment	Alfalfa - Baled
FARM REVENUE					
TOTAL FARM INCOME - CASH	121,759.00	12,380.00	2,802.00	2,306.00	25,040.00
TOTAL NON-CASH INCOME ADJUSTMENTS					
GROSS FARM REVENUE	121,759.00	12,380.00	2,802.00	2,306.00	25,040.00
FARM EXPENSES					
FARM EXPENSES - CASH	86,843.00	6,557.00	1,756.00	2,297.00	12,072.00
FARM EXPENSES - NON-CASH EXPENSE ADJUSTMENTS	98,550.00	11,245.00	2,709.00	2,536.00	15,331.00
GROSS FARM EXPENSES	185,393.00	17,802.00	4,465.00	4,833.00	27,403.00
NET FARM INCOME FROM OPERATIONS	(63,634.00)	(5,422.00)	(1,663.00)	(2,527.00)	(2,363.00)

Enterprise Risk Analyzer



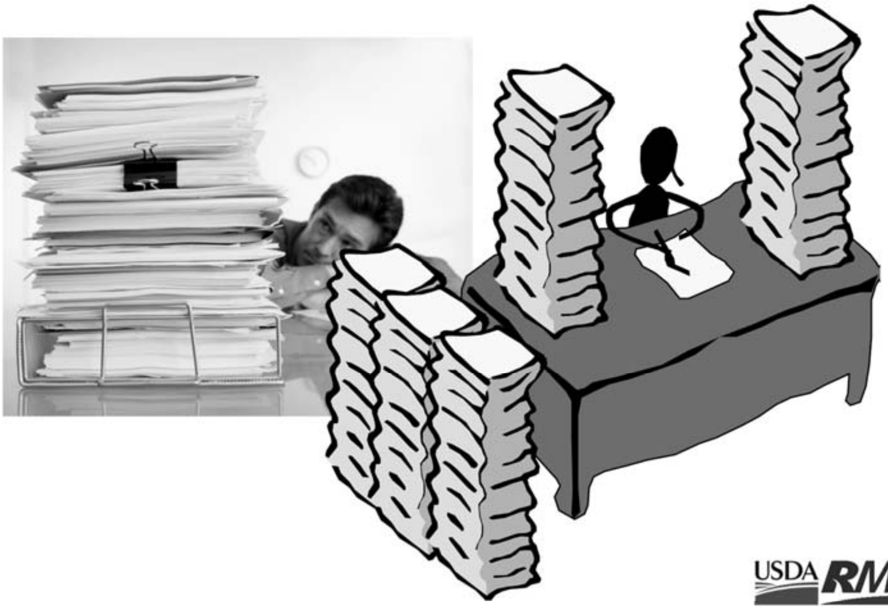
16	**Break-Even PRICE Analysis**					
17-18	YIELD PER ENTERPRISE UNIT	**Cow-Calf**	**Native Hay**	**Oat Hay**	**Alfalfa Establishment**	**Alfalfa - Baled**
19	*Maximum*	400	1.75	4	4	4
20	***Most Likely***	**373.97**	**1.5**	**3**	**2.54**	**3**
21	*Minimum*	350	1	1.5	1.5	1.5
22						
23	BREAK-EVEN PRICE - CASH EXPENSES					
24	*Minimum*	0.59	32.30	33.77	44.17	29.02
25	***Most Likely***	**0.64**	**37.68**	**45.03**	**69.56**	**38.69**
26	*Maximum*	0.68	56.53	90.05	117.79	77.38
27						
28	BREAK-EVEN PRICE - GROSS EXPENSES					
29	*Minimum*	1.27	87.69	85.87	92.94	65.87
30	***Most Likely***	**1.36**	**102.31**	**114.49**	**146.37**	**87.83**
31	*Maximum*	1.45	153.47	228.97	247.85	175.66
32						
33	**Probability Analysis** (*click button at right*)	Graph	Graph	Graph	Graph	Graph

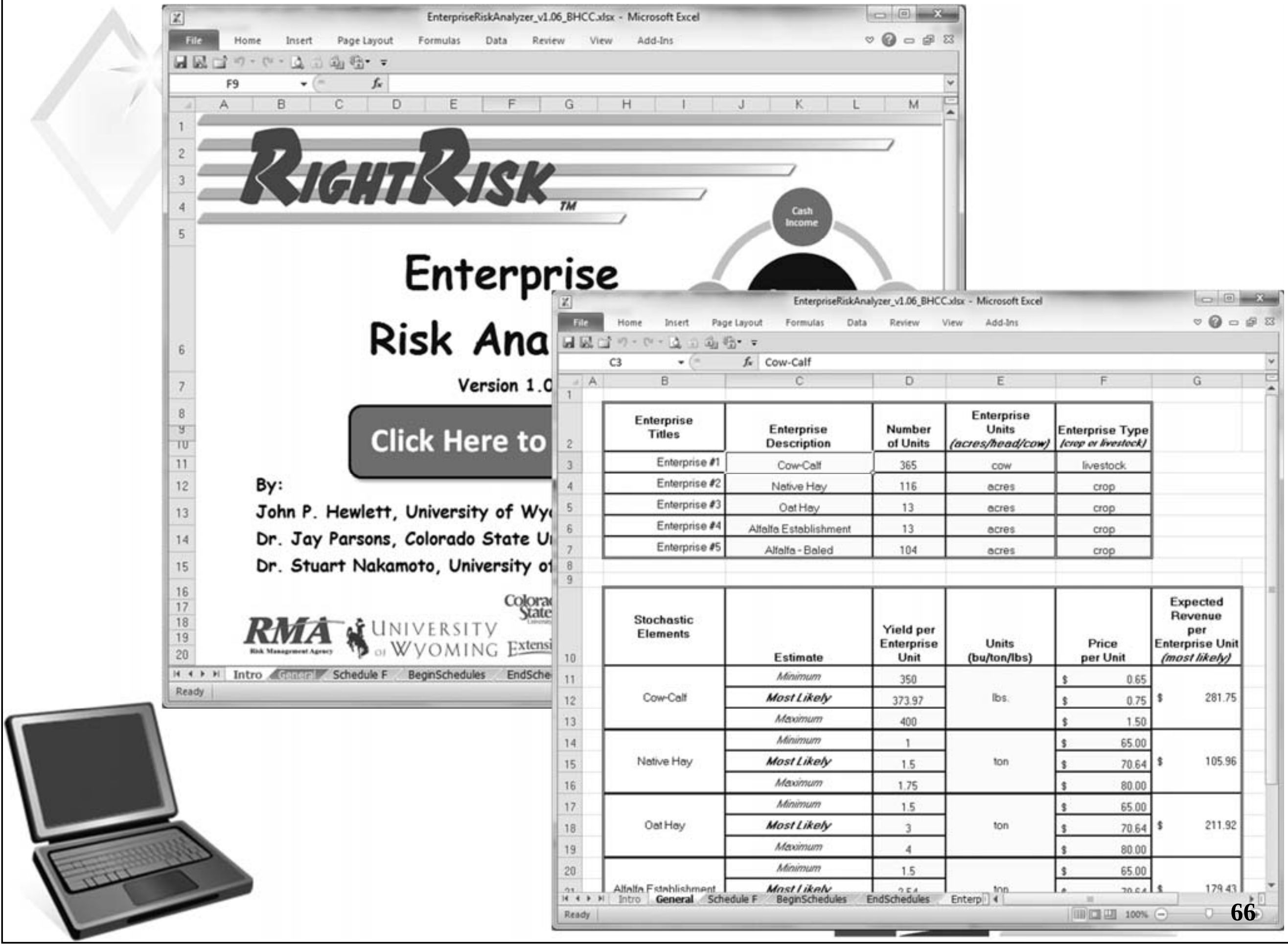
Enterprise Risk Analyzer



	A	B	C	D	E	F	G
1							
2-3			**Cow-Calf**	**Native Hay**	**Oat Hay**	**Alfalfa Establishment**	**Alfalfa - Baled**
35		**Break-Even YIELD Analysis**					
36-37		PRICE PER UNIT	**Cow-Calf**	**Native Hay**	**Oat Hay**	**Alfalfa Establishment**	**Alfalfa - Baled**
38		*Maximum*	1.5	80	80	80	150
39		***Most Likely***	**0.7534**	**70.64**	**70.64**	**70.64**	**80**
40		*Minimum*	0.65	65	65	65	75
41							
42		BREAK-EVEN YIELD - CASH EXPENSES					
43		*Minimum*	158.62	0.71	1.69	2.21	0.77
44		***Most Likely***	**315.80**	**0.80**	**1.91**	**2.50**	**1.45**
45		*Maximum*	366.04	0.87	2.08	2.72	1.55
46							
47		BREAK-EVEN YIELD - GROSS EXPENSES					
48		*Minimum*	338.62	1.92	4.29	4.65	1.76
49		***Most Likely***	**674.18**	**2.17**	**4.86**	**5.26**	**3.29**
50		*Maximum*	781.42	2.36	5.28	5.72	3.51
51							
52		**Probability Analysis** (*click button at right*)	Graph	Graph	Graph	Graph	Graph

CONSTRUCTING ENTERPRISE BUDGETS: your own numbers





EnterpriseRiskAnalyzer_v1.06_BHCC.xlsx - Microsoft Excel

Enterprise
Risk Ana
Version 1.0

Click Here to

By:
John P. Hewlett, University of Wy
Dr. Jay Parsons, Colorado State U
Dr. Stuart Nakamoto, University of

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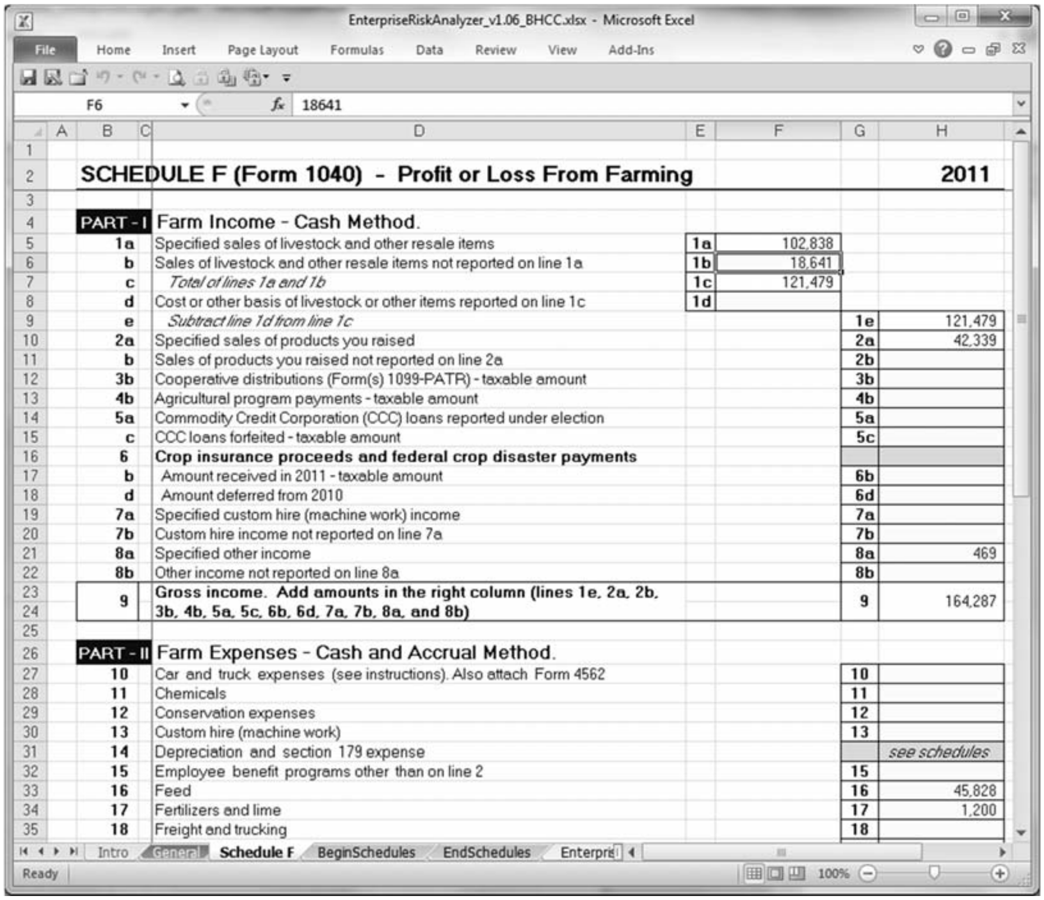
C3 Cow-Calf

Enterprise Titles	Enterprise Description	Number of Units	Enterprise Units *(acres/head/cow)*	Enterprise Type *(crop or livestock)*
Enterprise #1	Cow-Calf	365	cow	livestock
Enterprise #2	Native Hay	116	acres	crop
Enterprise #3	Oat Hay	13	acres	crop
Enterprise #4	Alfalfa Establishment	13	acres	crop
Enterprise #5	Alfalfa - Baled	104	acres	crop

Stochastic Elements	Estimate	Yield per Enterprise Unit	Units (bu/ton/lbs)	Price per Unit	Expected Revenue per Enterprise Unit *(most likely)*
Cow-Calf	*Minimum*	350	lbs.	$ 0.65	$ 281.75
	Most Likely	373.97		$ 0.75	
	Maximum	400		$ 1.50	
Native Hay	*Minimum*	1	ton	$ 65.00	$ 105.96
	Most Likely	1.5		$ 70.64	
	Maximum	1.75		$ 80.00	
Oat Hay	*Minimum*	1.5	ton	$ 65.00	$ 211.92
	Most Likely	3		$ 70.64	
	Maximum	4		$ 80.00	
Alfalfa Establishment	*Minimum*	1.5	ton	$ 65.00	$ 179.43
	Most Likely	2.54		$ 70.64	



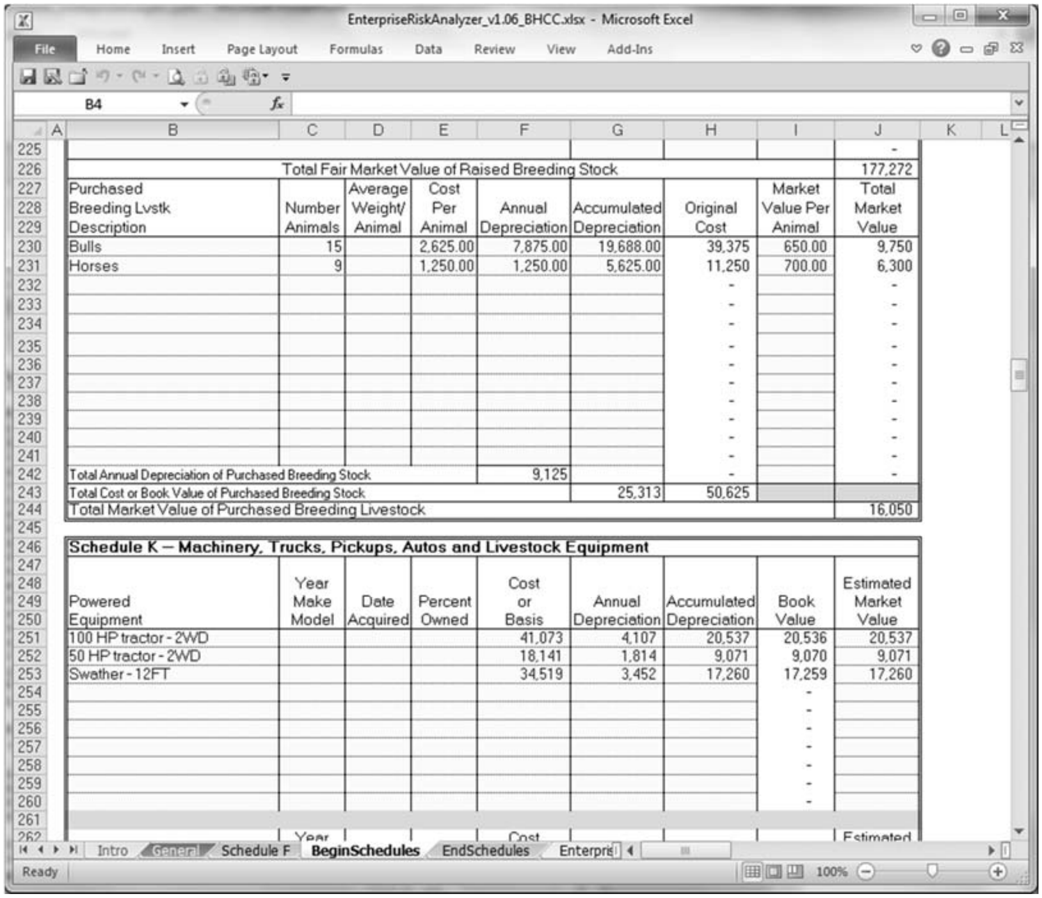
SCHEDULE F (Form 1040) - Profit or Loss From Farming 2011

PART - I Farm Income - Cash Method.

1a	Specified sales of livestock and other resale items	**1a**	102,838		
b	Sales of livestock and other resale items not reported on line 1a	**1b**	18,641		
c	*Total of lines 1a and 1b*	**1c**	121,479		
d	Cost or other basis of livestock or other items reported on line 1c	**1d**			
e	*Subtract line 1d from line 1c*			**1e**	121,479
2a	Specified sales of products you raised			**2a**	42,339
b	Sales of products you raised not reported on line 2a			**2b**	
3b	Cooperative distributions (Form(s) 1099-PATR) - taxable amount			**3b**	
4b	Agricultural program payments - taxable amount			**4b**	
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**	469
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**	164,287

PART - II Farm Expenses - Cash and Accrual Method.

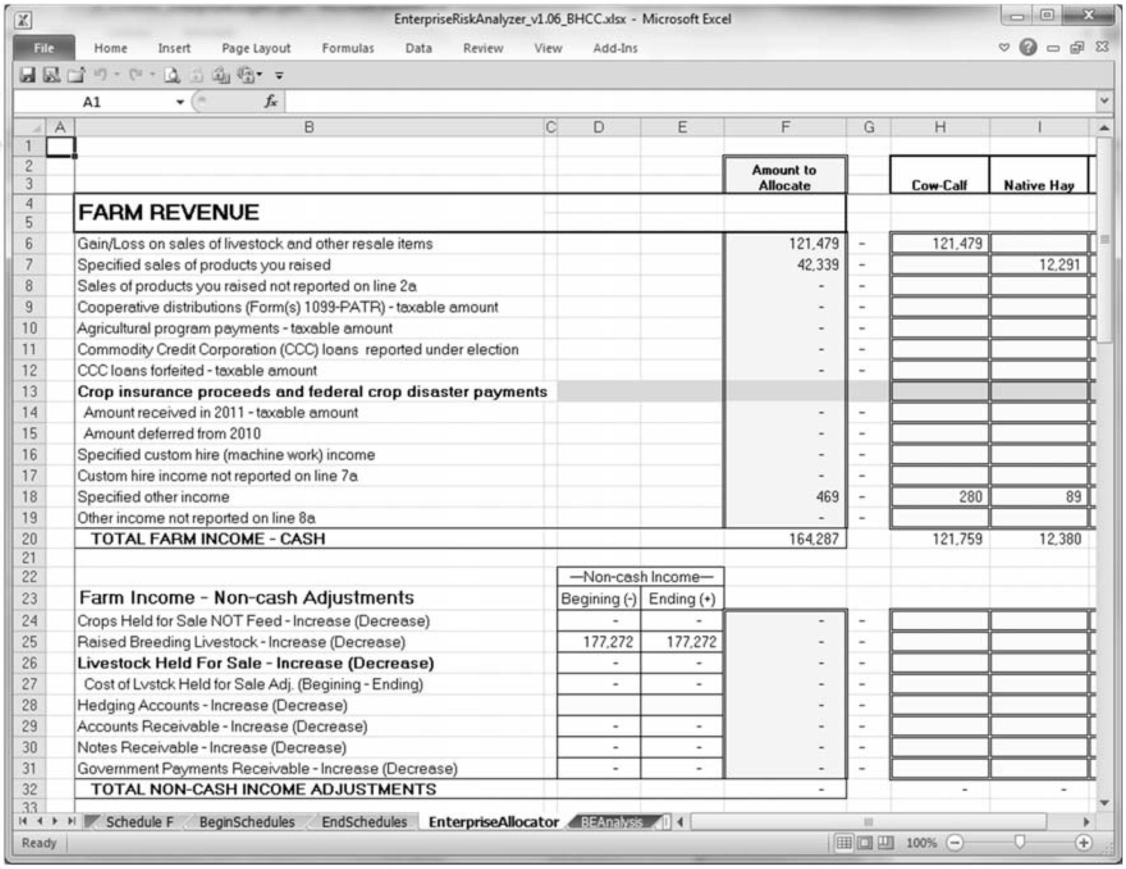
10	Car and truck expenses (see instructions). Also attach Form 4562	**10**	
11	Chemicals	**11**	
12	Conservation expenses	**12**	
13	Custom hire (machine work)	**13**	
14	Depreciation and section 179 expense		*see schedules*
15	Employee benefit programs other than on line 2	**15**	
16	Feed	**16**	45,828
17	Fertilizers and lime	**17**	1,200
18	Freight and trucking	**18**	



Purchased Breeding Lvstk Description	Number Animals	Average Weight/ Animal	Cost Per Animal	Annual Depreciation	Accumulated Depreciation	Original Cost	Market Value Per Animal	Total Market Value
								-
Total Fair Market Value of Raised Breeding Stock								177,272
Bulls	15		2,625.00	7,875.00	19,688.00	39,375	650.00	9,750
Horses	9		1,250.00	1,250.00	5,625.00	11,250	700.00	6,300
						-		-
						-		-
						-		-
						-		-
						-		-
						-		-
						-		-
						-		-
						-		-
						-		-
Total Annual Depreciation of Purchased Breeding Stock				9,125		-		-
Total Cost or Book Value of Purchased Breeding Stock					25,313	50,625		
Total Market Value of Purchased Breeding Livestock								16,050

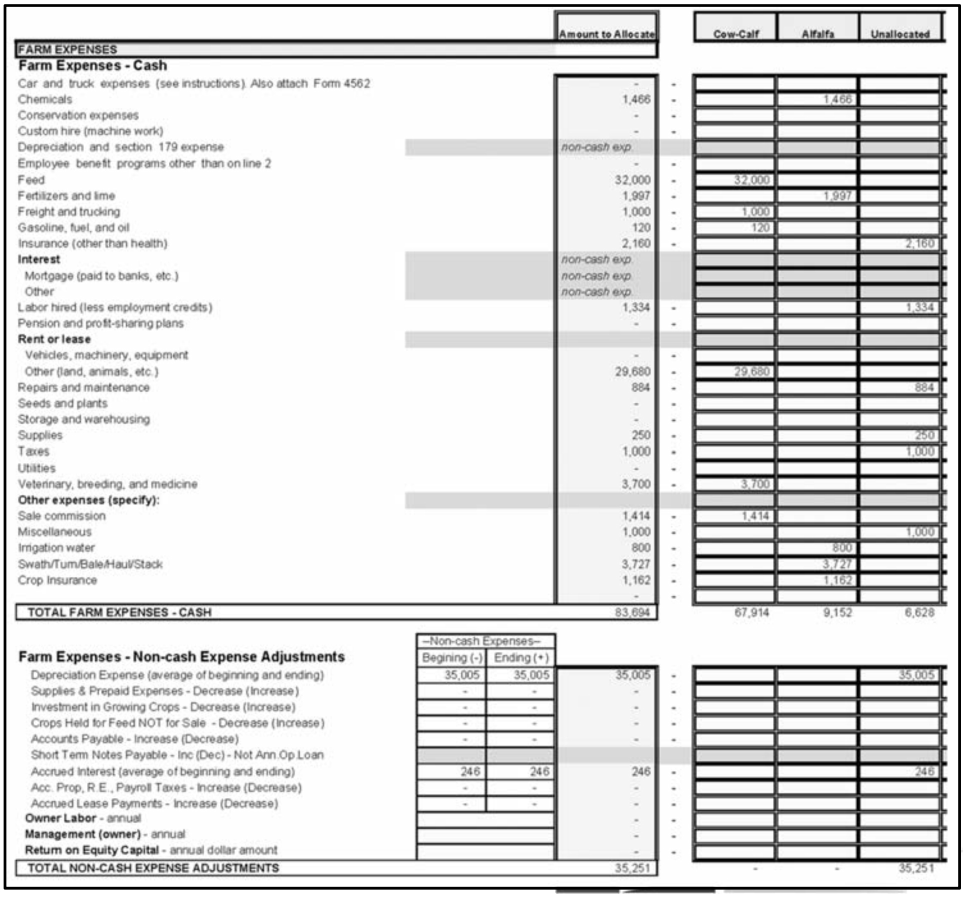
Schedule K — Machinery, Trucks, Pickups, Autos and Livestock Equipment

Powered Equipment	Year Make Model	Date Acquired	Percent Owned	Cost or Basis	Annual Depreciation	Accumulated Depreciation	Book Value	Estimated Market Value
100 HP tractor - 2WD				41,073	4,107	20,537	20,536	20,537
50 HP tractor - 2WD				18,141	1,814	9,071	9,070	9,071
Swather - 12FT				34,519	3,452	17,260	17,259	17,260
							-	
							-	
							-	
							-	
							-	
							-	
							-	
	Year			Cost				Estimated



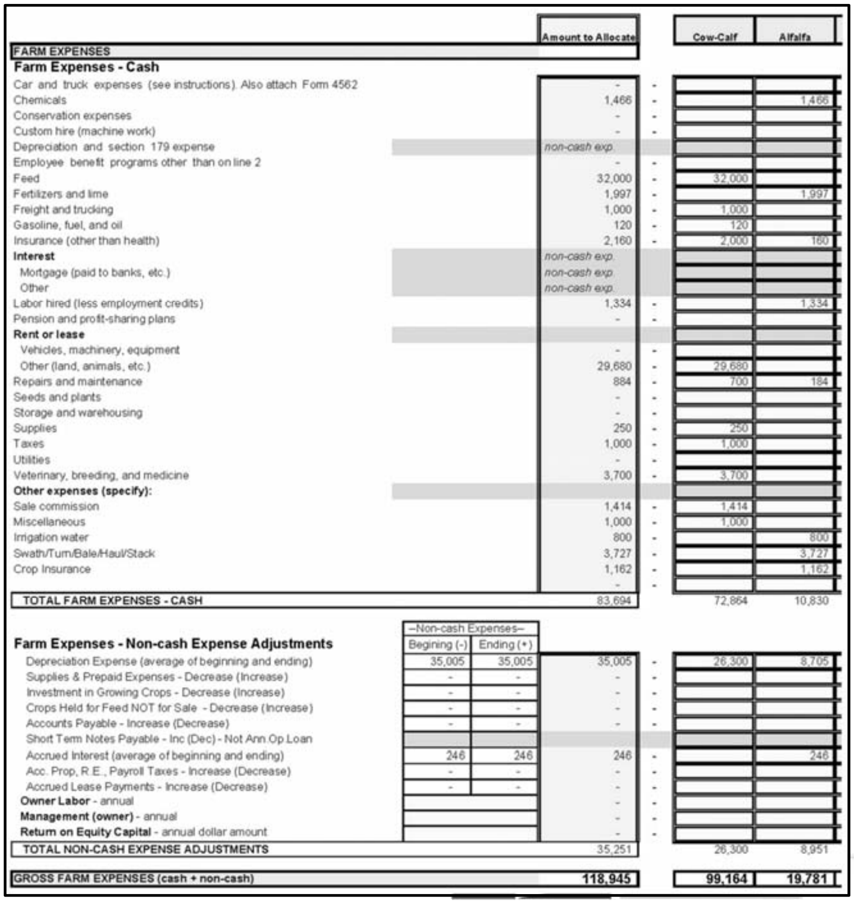
	B	D	E	F	G	H	I
2–3				Amount to Allocate		Cow-Calf	Native Hay
4–5	**FARM REVENUE**						
6	Gain/Loss on sales of livestock and other resale items			121,479	-	121,479	
7	Specified sales of products you raised			42,339	-		12,291
8	Sales of products you raised not reported on line 2a			-	-		
9	Cooperative distributions (Form(s) 1099-PATR) - taxable amount			-	-		
10	Agricultural program payments - taxable amount			-	-		
11	Commodity Credit Corporation (CCC) loans reported under election			-	-		
12	CCC loans forfeited - taxable amount			-	-		
13	**Crop insurance proceeds and federal crop disaster payments**						
14	Amount received in 2011 - taxable amount			-	-		
15	Amount deferred from 2010			-	-		
16	Specified custom hire (machine work) income			-	-		
17	Custom hire income not reported on line 7a			-	-		
18	Specified other income			469	-	280	89
19	Other income not reported on line 8a			-	-		
20	TOTAL FARM INCOME - CASH			164,287		121,759	12,380
21							
22		—Non-cash Income—					
23	Farm Income - Non-cash Adjustments	Begining (-)	Ending (+)				
24	Crops Held for Sale NOT Feed - Increase (Decrease)	-	-	-	-		
25	Raised Breeding Livestock - Increase (Decrease)	177,272	177,272	-	-		
26	**Livestock Held For Sale - Increase (Decrease)**	-	-	-	-		
27	Cost of Lvstck Held for Sale Adj. (Begining - Ending)	-	-	-	-		
28	Hedging Accounts - Increase (Decrease)			-	-		
29	Accounts Receivable - Increase (Decrease)	-	-	-	-		
30	Notes Receivable - Increase (Decrease)	-	-	-	-		
31	Government Payments Receivable - Increase (Decrease)	-	-	-	-		
32	TOTAL NON-CASH INCOME ADJUSTMENTS			-		-	-
33							

ERA Practice



			Amount to Allocate		Cow-Calf	Alfalfa	Unallocated
FARM EXPENSES							
Farm Expenses - Cash							
Car and truck expenses (see instructions). Also attach Form 4562			-	-			
Chemicals			1,466	-		1,466	
Conservation expenses			-	-			
Custom hire (machine work)			-	-			
Depreciation and section 179 expense			*non-cash exp.*				
Employee benefit programs other than on line 2			-	-			
Feed			32,000	-	32,000		
Fertilizers and lime			1,997	-		1,997	
Freight and trucking			1,000	-	1,000		
Gasoline, fuel, and oil			120	-	120		
Insurance (other than health)			2,160	-			2,160
Interest			*non-cash exp.*				
Mortgage (paid to banks, etc.)			*non-cash exp.*				
Other			*non-cash exp.*				
Labor hired (less employment credits)			1,334	-			1,334
Pension and profit-sharing plans			-	-			
Rent or lease							
Vehicles, machinery, equipment			-	-			
Other (land, animals, etc.)			29,680	-	29,680		
Repairs and maintenance			884	-			884
Seeds and plants			-	-			
Storage and warehousing			-	-			
Supplies			250	-			250
Taxes			1,000	-			1,000
Utilities			-	-			
Veterinary, breeding, and medicine			3,700	-	3,700		
Other expenses (specify):							
Sale commission			1,414	-	1,414		
Miscellaneous			1,000	-			1,000
Irrigation water			800	-		800	
Swath/Turn/Bale/Haul/Stack			3,727	-		3,727	
Crop Insurance			1,162	-		1,162	
			-	-			
TOTAL FARM EXPENSES - CASH			83,694		67,914	9,152	6,628
	–Non-cash Expenses–						
Farm Expenses - Non-cash Expense Adjustments	Begining (-)	Ending (+)					
Depreciation Expense (average of beginning and ending)	35,005	35,005	35,005	-			35,005
Supplies & Prepaid Expenses - Decrease (Increase)	-	-	-	-			
Investment in Growing Crops - Decrease (Increase)	-	-	-	-			
Crops Held for Feed NOT for Sale - Decrease (Increase)	-	-	-	-			
Accounts Payable - Increase (Decrease)	-	-	-	-			
Short Term Notes Payable - Inc (Dec) - Not Ann.Op.Loan							
Accrued Interest (average of beginning and ending)	246	246	246	-			246
Acc. Prop, R.E., Payroll Taxes - Increase (Decrease)	-	-	-	-			
Accrued Lease Payments - Increase (Decrease)	-	-	-	-			
Owner Labor - annual			-	-			
Management (owner) - annual			-	-			
Return on Equity Capital - annual dollar amount			-	-			
TOTAL NON-CASH EXPENSE ADJUSTMENTS			35,251		-	-	35,251

ERA Practice - ANSWERS



FARM EXPENSES

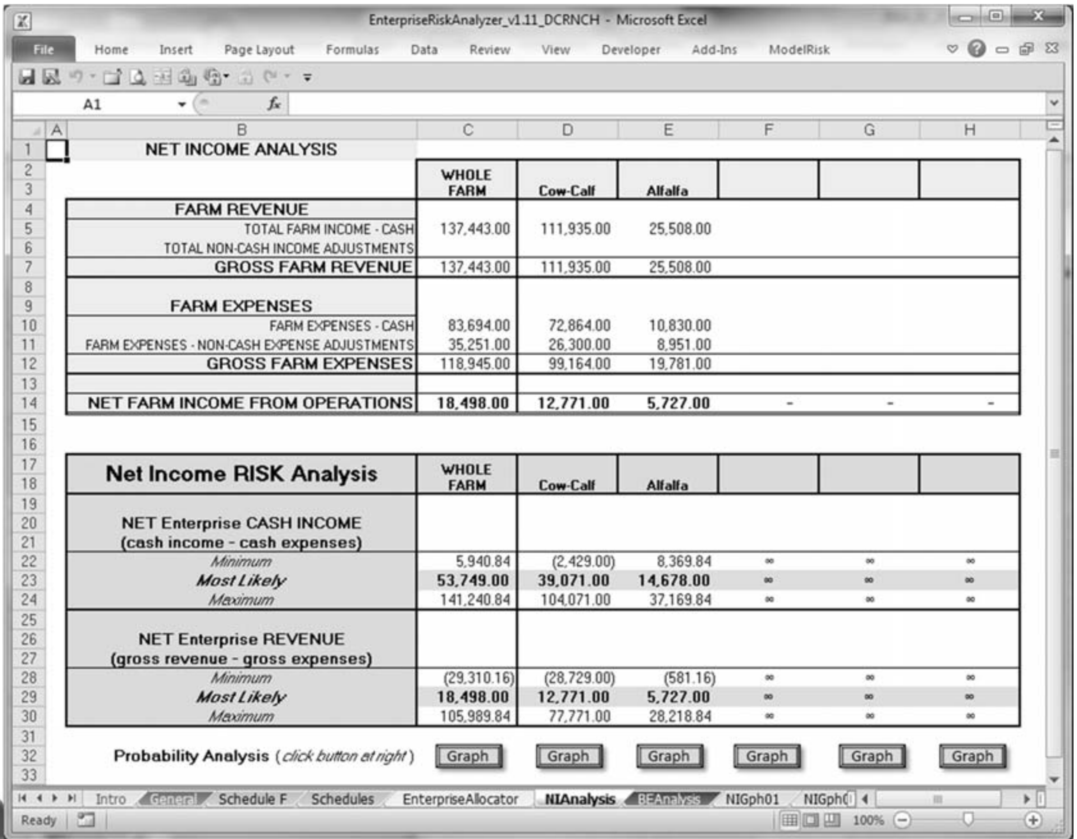
Farm Expenses - Cash

	Amount to Allocate		Cow-Calf	Alfalfa
Car and truck expenses (see instructions). Also attach Form 4562	-	-		
Chemicals	1,466	-		1,466
Conservation expenses	-	-		
Custom hire (machine work)	-	-		
Depreciation and section 179 expense	*non-cash exp.*			
Employee benefit programs other than on line 2	-	-		
Feed	32,000	-	32,000	
Fertilizers and lime	1,997	-		1,997
Freight and trucking	1,000	-	1,000	
Gasoline, fuel, and oil	120	-	120	
Insurance (other than health)	2,160	-	2,000	160
Interest	*non-cash exp.*			
Mortgage (paid to banks, etc.)	*non-cash exp.*			
Other	*non-cash exp.*			
Labor hired (less employment credits)	1,334	-		1,334
Pension and profit-sharing plans	-	-		
Rent or lease				
Vehicles, machinery, equipment	-	-		
Other (land, animals, etc.)	29,680	-	29,680	
Repairs and maintenance	884	-	700	184
Seeds and plants	-	-		
Storage and warehousing	-	-		
Supplies	250	-	250	
Taxes	1,000	-	1,000	
Utilities	-	-		
Veterinary, breeding, and medicine	3,700	-	3,700	
Other expenses (specify):				
Sale commission	1,414	-	1,414	
Miscellaneous	1,000	-	1,000	
Irrigation water	800	-		800
Swath/Turn/Bale/Haul/Stack	3,727	-		3,727
Crop Insurance	1,162	-		1,162
	-	-		
TOTAL FARM EXPENSES - CASH	83,694		72,864	10,830

Farm Expenses - Non-cash Expense Adjustments

	--Non-cash Expenses--					
	Begining (-)	Ending (+)				
Depreciation Expense (average of beginning and ending)	35,005	35,005	35,005	-	26,300	8,705
Supplies & Prepaid Expenses - Decrease (Increase)	-	-	-	-		
Investment in Growing Crops - Decrease (Increase)	-	-	-	-		
Crops Held for Feed NOT for Sale - Decrease (Increase)	-	-	-	-		
Accounts Payable - Increase (Decrease)	-	-	-	-		
Short Term Notes Payable - Inc (Dec) - Not Ann.Op.Loan						
Accrued Interest (average of beginning and ending)	246	246	246	-		246
Acc. Prop, R.E., Payroll Taxes - Increase (Decrease)	-	-	-	-		
Accrued Lease Payments - Increase (Decrease)	-	-	-	-		
Owner Labor - annual			-	-		
Management (owner) - annual			-	-		
Return on Equity Capital - annual dollar amount			-	-		
TOTAL NON-CASH EXPENSE ADJUSTMENTS			35,251		26,300	8,951
GROSS FARM EXPENSES (cash + non-cash)			**118,945**		**99,164**	**19,781**

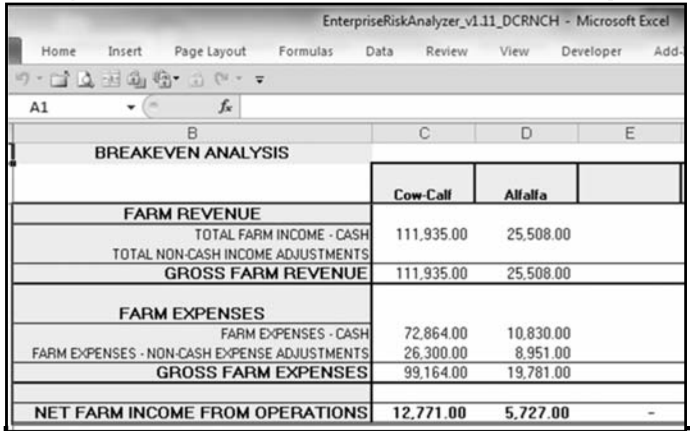
ERA Practice - ANSWERS



NET INCOME ANALYSIS						
	WHOLE FARM	Cow-Calf	Alfalfa			
FARM REVENUE						
TOTAL FARM INCOME - CASH	137,443.00	111,935.00	25,508.00			
TOTAL NON-CASH INCOME ADJUSTMENTS						
GROSS FARM REVENUE	137,443.00	111,935.00	25,508.00			
FARM EXPENSES						
FARM EXPENSES - CASH	83,694.00	72,864.00	10,830.00			
FARM EXPENSES - NON-CASH EXPENSE ADJUSTMENTS	35,251.00	26,300.00	8,951.00			
GROSS FARM EXPENSES	118,945.00	99,164.00	19,781.00			
NET FARM INCOME FROM OPERATIONS	**18,498.00**	**12,771.00**	**5,727.00**	-	-	-

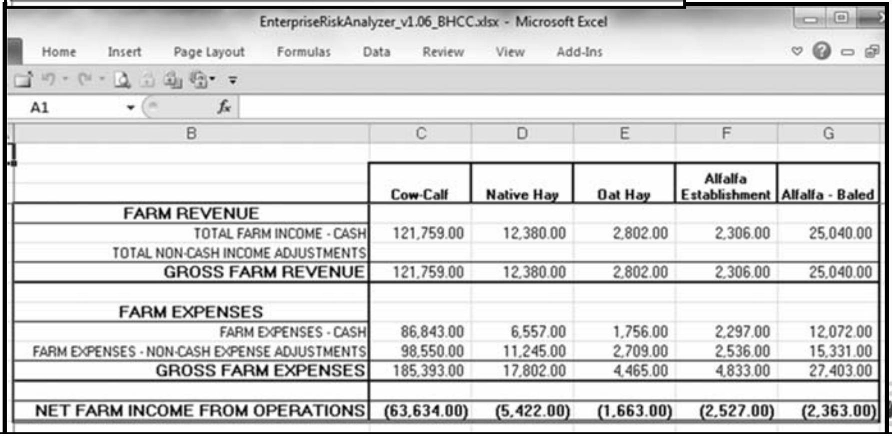
Net Income RISK Analysis	WHOLE FARM	Cow-Calf	Alfalfa			
NET Enterprise CASH INCOME (cash income - cash expenses)						
Minimum	5,940.84	(2,429.00)	8,369.84	∞	∞	∞
Most Likely	**53,749.00**	**39,071.00**	**14,678.00**	∞	∞	∞
Maximum	141,240.84	104,071.00	37,169.84	∞	∞	∞
NET Enterprise REVENUE (gross revenue - gross expenses)						
Minimum	(29,310.16)	(28,729.00)	(581.16)	∞	∞	∞
Most Likely	**18,498.00**	**12,771.00**	**5,727.00**	∞	∞	∞
Maximum	105,989.84	77,771.00	28,218.84	∞	∞	∞
Probability Analysis (*click button at right*)	Graph	Graph	Graph	Graph	Graph	Graph

Enterprise Risk Analyzer: Comparison with Big Horn Basin Cow/Calf Ranch



BREAKEVEN ANALYSIS

	Cow-Calf	Alfalfa	
FARM REVENUE			
TOTAL FARM INCOME - CASH	111,935.00	25,508.00	
TOTAL NON-CASH INCOME ADJUSTMENTS			
GROSS FARM REVENUE	111,935.00	25,508.00	
FARM EXPENSES			
FARM EXPENSES - CASH	72,864.00	10,830.00	
FARM EXPENSES - NON-CASH EXPENSE ADJUSTMENTS	26,300.00	8,951.00	
GROSS FARM EXPENSES	99,164.00	19,781.00	
NET FARM INCOME FROM OPERATIONS	**12,771.00**	**5,727.00**	-



	Cow-Calf	Native Hay	Oat Hay	Alfalfa Establishment	Alfalfa - Baled
FARM REVENUE					
TOTAL FARM INCOME - CASH	121,759.00	12,380.00	2,802.00	2,306.00	25,040.00
TOTAL NON-CASH INCOME ADJUSTMENTS					
GROSS FARM REVENUE	121,759.00	12,380.00	2,802.00	2,306.00	25,040.00
FARM EXPENSES					
FARM EXPENSES - CASH	86,843.00	6,557.00	1,756.00	2,297.00	12,072.00
FARM EXPENSES - NON-CASH EXPENSE ADJUSTMENTS	98,550.00	11,245.00	2,709.00	2,536.00	15,331.00
GROSS FARM EXPENSES	185,393.00	17,802.00	4,465.00	4,833.00	27,403.00
NET FARM INCOME FROM OPERATIONS	**(63,634.00)**	**(5,422.00)**	**(1,663.00)**	**(2,527.00)**	**(2,363.00)**

Enterprise Profitability

- Whole-farm profitability is derived from *enterprise profitability*
- One enterprise may be profitable but another may have only marginal profitability or may have costs greater than returns
- May be defined as returns greater than the sum of <u>ALL</u> costs:
  - *Cash* and *non-cash* (e.g. depreciation)
  - *Actual* and *imputed* (e.g. unpaid family labor)
  - *Variable* and *fixed* (ownership costs)

Enterprise Profitability cont.

- Estimates require information from past financial statements or records
- Allow calculation of break even:
  - Breakeven cost
  - Breakeven price
  - Breakeven quantity
- Can help management decide where to make adjustments in the crop or livestock mix

Thank You!

Tools to Evaluate Risk for Your Enterprises & Entire Farm

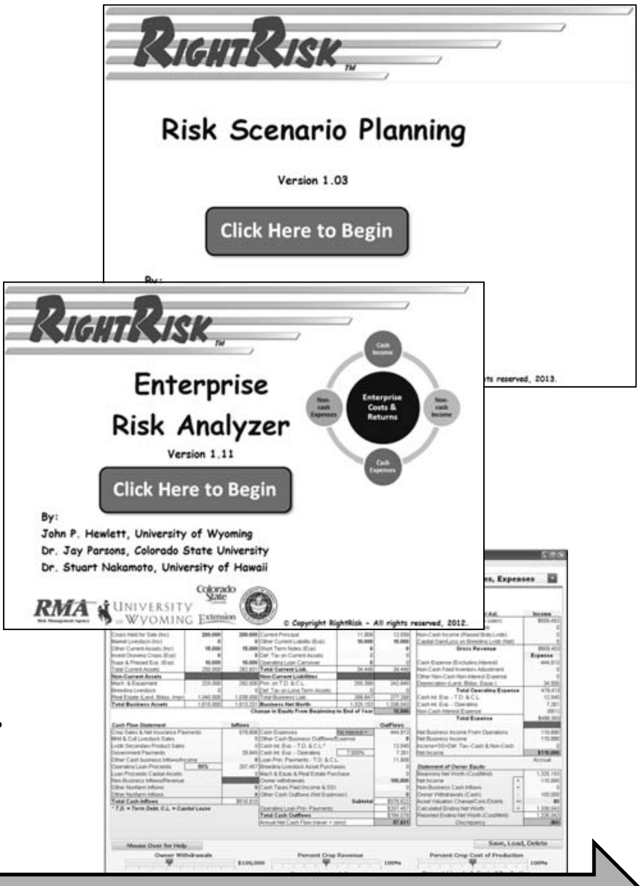
Jay Parsons
Colorado State University

John Hewlett
University of Wyoming

http://oregon.erightrisk.com

Tools to Evaluate Alternatives

- Partial Budget
  relatively minor changes
- Enterprise Budget
  larger changes
- Whole Farm Budget
  substantial changes



Risk Scenario Planning

Version 1.03

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Enterprise Risk Analyzer

Version 1.11

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By:
John P. Hewlett, University of Wyoming
Dr. Jay Parsons, Colorado State University
Dr. Stuart Nakamoto, University of Hawaii

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Enterprise Risk Analyzer

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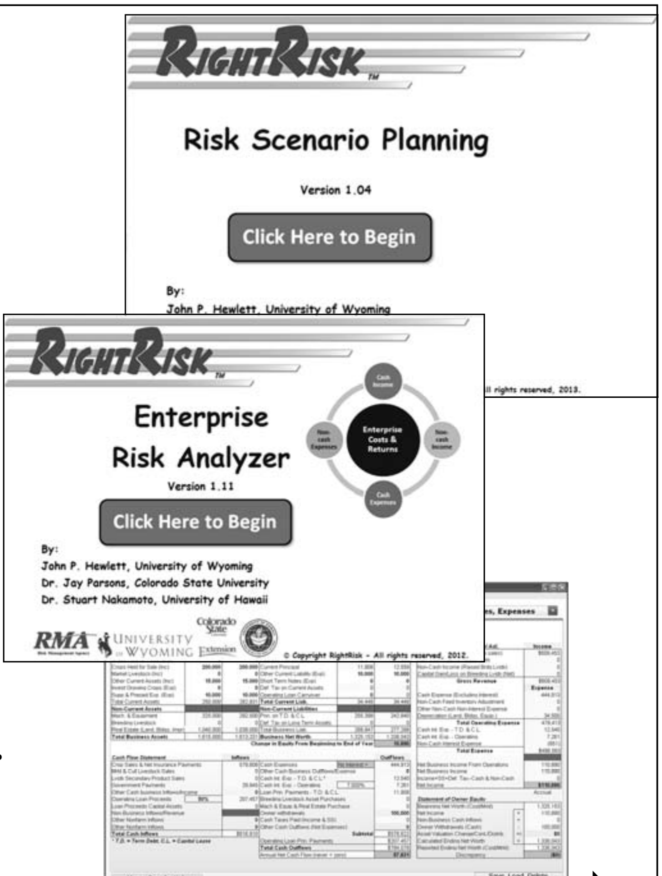
John P. Hewlett, University of Wyoming
Dr. Jay Parsons, Colorado State University
Dr. Stuart Nakamoto, University of Hawaii

Tools to Evaluate Alternatives

- Partial Budget
  relatively minor changes
- Enterprise Budget
  larger changes
- Whole Farm Budget
  substantial changes



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Risk Scenario Planning

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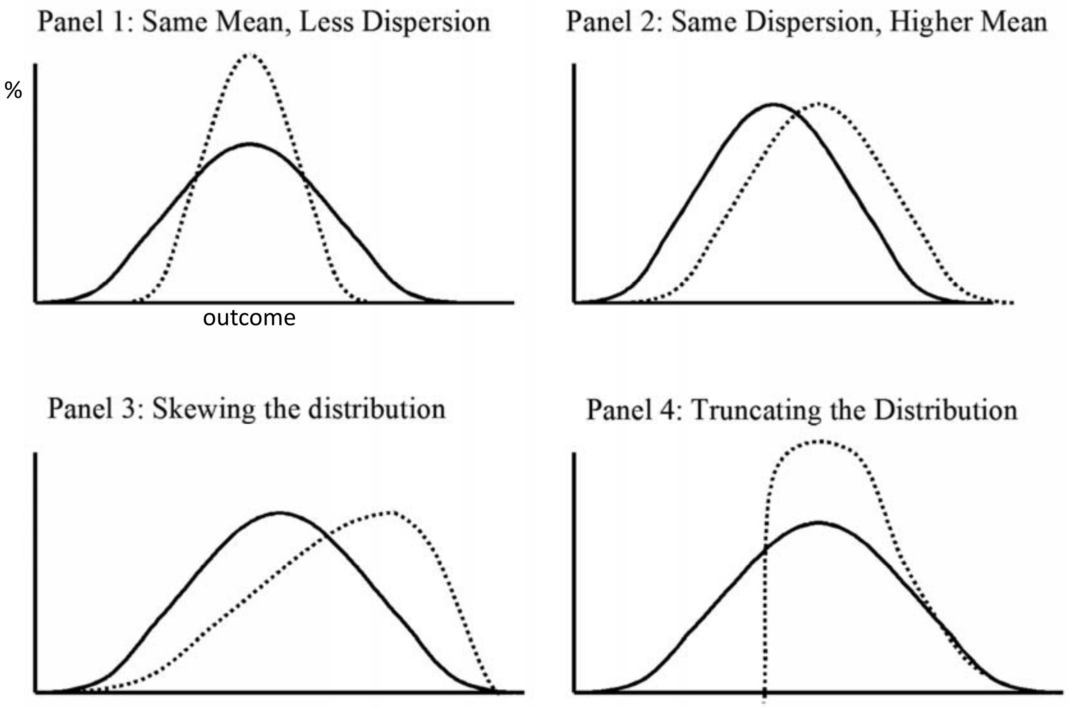
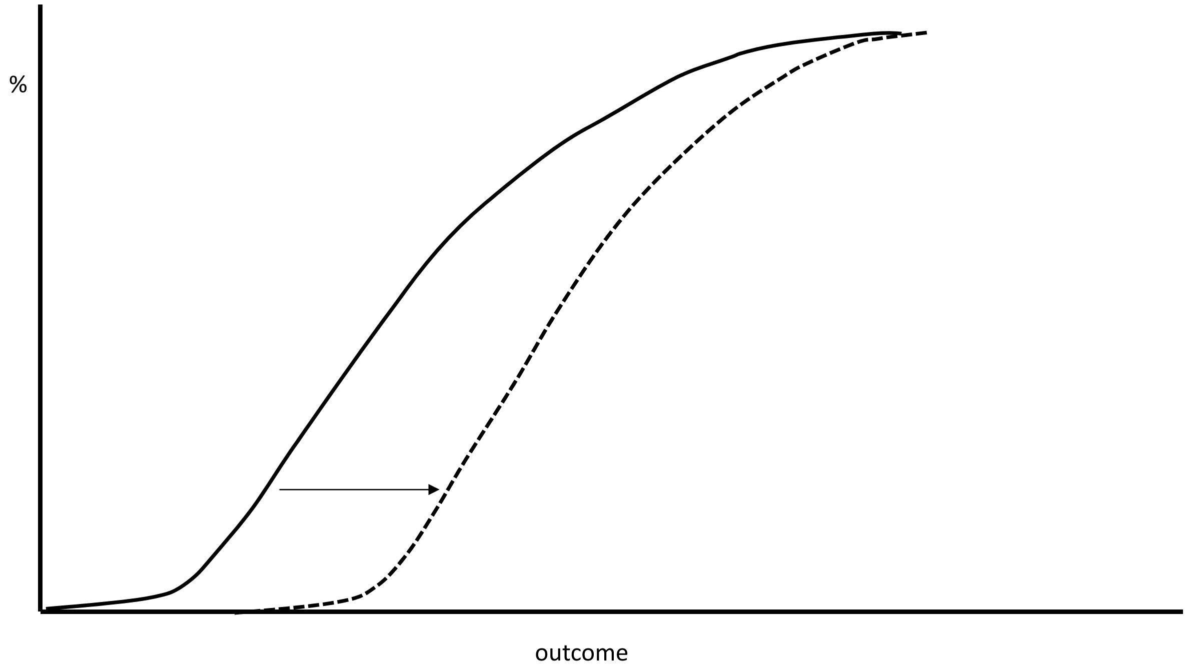
Strategies for Managing Risk

1. **Avoid it**
2. **Reduce it**
   - a) Reduce the probability it will happen
   - b) Reduce the impact if it does happen
3. **Transfer it outside the business**
   - a) Insurance
   - b) Contracting
4. **Increase capacity to bare**
   - a) Increase reserves
   - b) Maintain flexibility
5. **Accept it**

Risk Management Strategy Goals:



Cumulative Distribution Functions



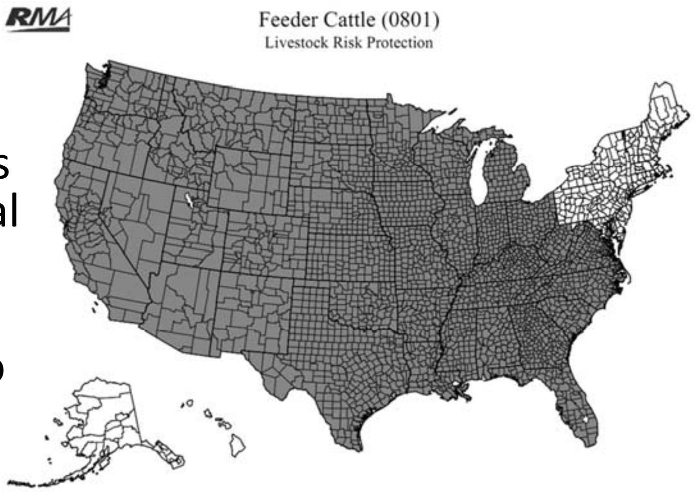
Risk Scenario Planning

Version 1.04

By:
John P. Hewlett, University of Wyoming
Dr. Jay Parsons, Colorado State University

Livestock Insurance: LRP for Feeder Cattle Coverage

- LRP for feeder cattle offers *price* protection for feeder cattle producers. It does *not* cover sickness or death of the cattle or insure against possible rising feed costs.
- Now available in all counties of Oregon and across several other states
- Producers remain subject to ***basis price risk***



Livestock Insurance: LRP for Feeder Cattle LRP Basics

- Expected End Value
  - This is the expected prices at the end of an insurance period for each specific type and weight of feeder cattle announced daily on the RMA website
- Coverage Prices
  - the prices that may be insured by the producer
- Coverage Levels
  - based on the chosen coverage price and range from 70 to 100% of the expected end value
- Actual End Value
  - This is the value of the cash settled CME feeder cattle index on the end date of the insurance period, adjusted by RMA for feeder cattle type and weight
- Subsidy Level – RMA provides a 13% subsidy on LRP feeder cattle

Risk Scenario Planning

Version 1.04

By:
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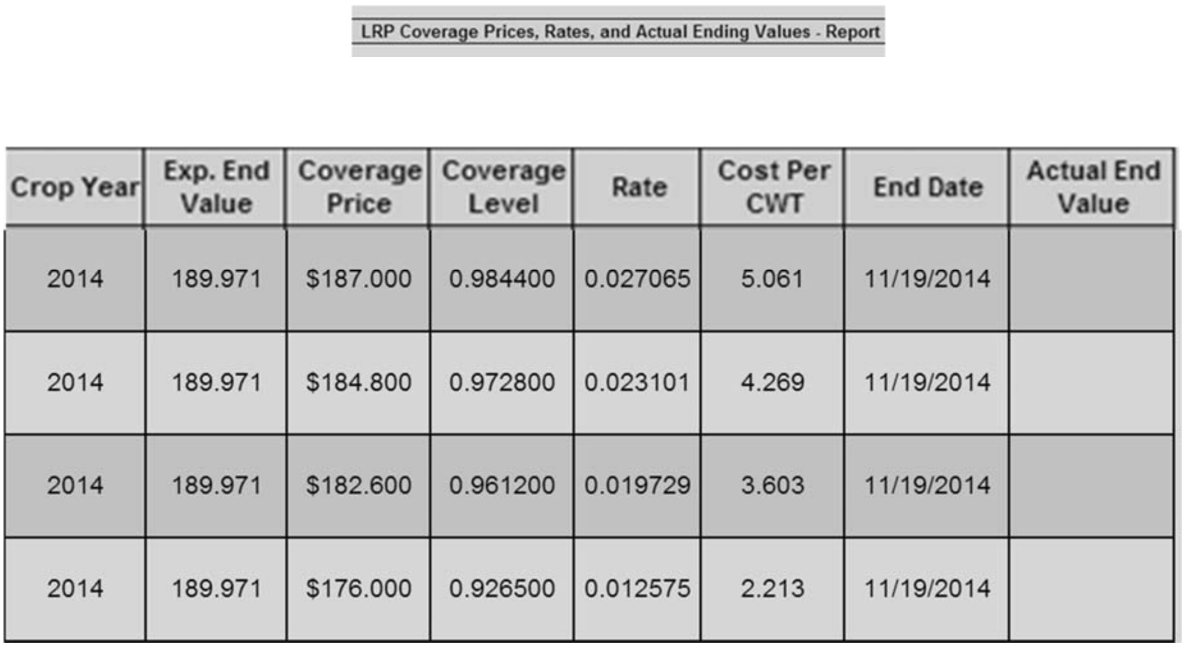
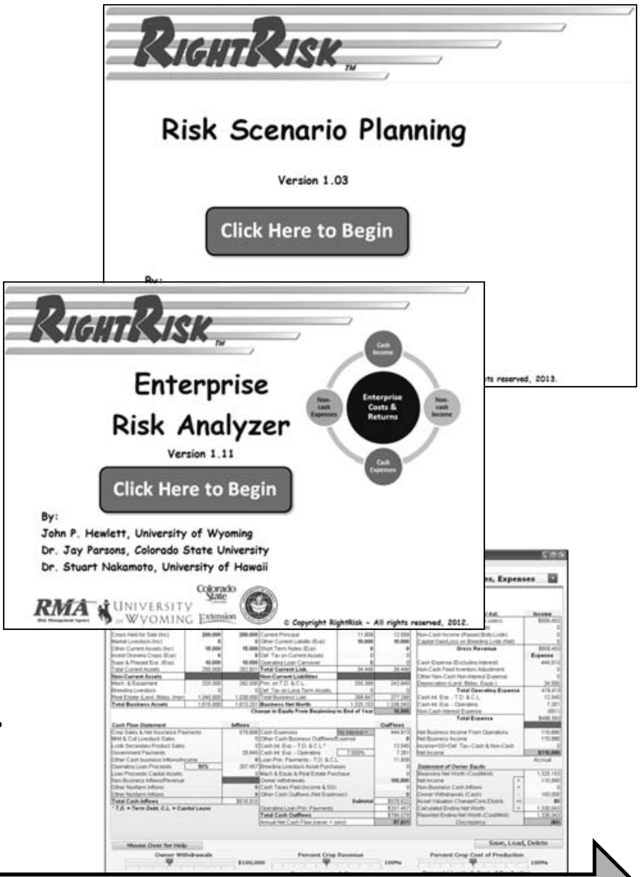


LRP Coverage Prices, Rates, and Actual Ending Values - Report

Crop Year	Exp. End Value	Coverage Price	Coverage Level	Rate	Cost Per CWT	End Date	Actual End Value
2014	189.971	$187.000	0.984400	0.027065	5.061	11/19/2014	
2014	189.971	$184.800	0.972800	0.023101	4.269	11/19/2014	
2014	189.971	$182.600	0.961200	0.019729	3.603	11/19/2014	
2014	189.971	$176.000	0.926500	0.012575	2.213	11/19/2014	

Tools to Evaluate Alternatives

- Partial Budget
  relatively minor changes
- Enterprise Budget
  larger changes
- Whole Farm Budget
  substantial changes



Risk Scenario Planning

Version 1.03

Click Here to Begin

Enterprise Risk Analyzer

Version 1.11

Click Here to Begin

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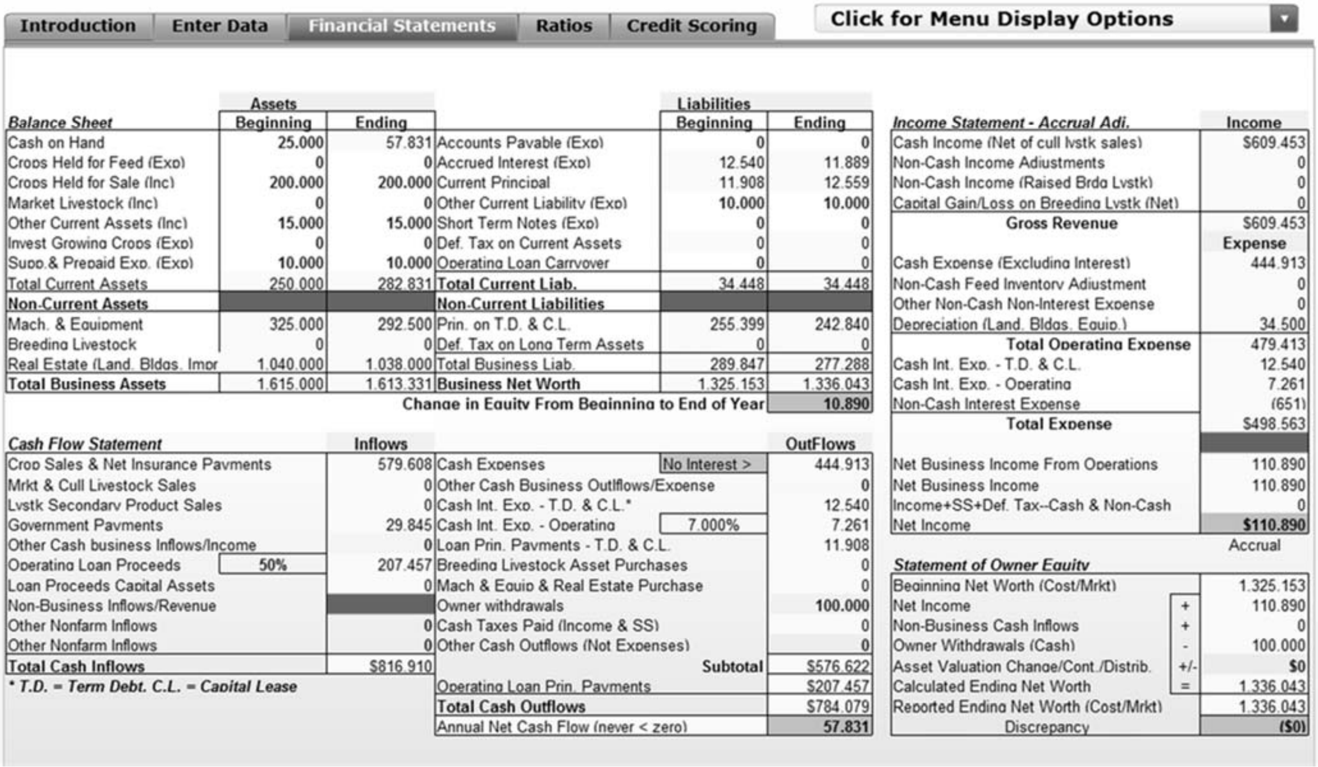
Substantial Changes

Complete Financials Required

- Beginning and Ending Balance Sheets
- Cash Flow Statement
- Accrual Adjusted Income Statement
- Statement of Owner Equity

EWS Farms RD Financial



Balance Sheet	Assets Beginning	Assets Ending		Liabilities Beginning	Liabilities Ending
Cash on Hand	25.000	57.831	Accounts Payable (Exp)	0	0
Crops Held for Feed (Exp)	0	0	Accrued Interest (Exp)	12.540	11.889
Crops Held for Sale (Inc)	200.000	200.000	Current Principal	11.908	12.559
Market Livestock (Inc)	0	0	Other Current Liability (Exp)	10.000	10.000
Other Current Assets (Inc)	15.000	15.000	Short Term Notes (Exp)	0	0
Invest Growing Crops (Exp)	0	0	Def. Tax on Current Assets	0	0
Supp.& Prepaid Exp. (Exp)	10.000	10.000	Operating Loan Carryover	0	0
Total Current Assets	250.000	282.831	**Total Current Liab.**	34.448	34.448
Non-Current Assets			**Non-Current Liabilities**		
Mach. & Equipment	325.000	292.500	Prin. on T.D. & C.L.	255.399	242.840
Breeding Livestock	0	0	Def. Tax on Long Term Assets	0	0
Real Estate (Land, Bldgs, Impr	1.040.000	1.038.000	Total Business Liab.	289.847	277.288
Total Business Assets	1.615.000	1.613.331	**Business Net Worth**	1.325.153	1.336.043
			Change in Equity From Beginning to End of Year		10.890

Cash Flow Statement		Inflows			OutFlows
Crop Sales & Net Insurance Payments		579.608	Cash Expenses	No Interest >	444.913
Mrkt & Cull Livestock Sales		0	Other Cash Business Outlflows/Expense		0
Lvstk Secondary Product Sales		0	Cash Int. Exp. - T.D. & C.L.*		12.540
Government Payments		29.845	Cash Int. Exp. - Operating	7.000%	7.261
Other Cash business Inflows/Income		0	Loan Prin. Payments - T.D. & C.L.		11.908
Operating Loan Proceeds	50%	207.457	Breeding Livestock Asset Purchases		0
Loan Proceeds Capital Assets		0	Mach & Equip & Real Estate Purchase		0
Non-Business Inflows/Revenue			Owner withdrawals		100.000
Other Nonfarm Inflows		0	Cash Taxes Paid (Income & SS)		0
Other Nonfarm Inflows		0	Other Cash Outflows (Not Expenses)		0
Total Cash Inflows		$816.910	**Subtotal**		$576.622
			Operating Loan Prin. Payments		$207.457
			Total Cash Outflows		$784.079
			Annual Net Cash Flow (never < zero)		57.831

** T.D. = Term Debt. C.L. = Capital Lease*

Income Statement - Accrual Adj.		Income
Cash Income (Net of cull lvstk sales)		$609.453
Non-Cash Income Adjustments		0
Non-Cash Income (Raised Brdg Lvstk)		0
Capital Gain/Loss on Breeding Lvstk (Net)		0
Gross Revenue		$609.453
		Expense
Cash Expense (Excluding Interest)		444.913
Non-Cash Feed Inventory Adjustment		0
Other Non-Cash Non-Interest Expense		0
Depreciation (Land, Bldgs, Equip.)		34.500
Total Operating Expense		479.413
Cash Int. Exp. - T.D. & C.L.		12.540
Cash Int. Exp. - Operating		7.261
Non-Cash Interest Expense		(651)
Total Expense		$498.563
Net Business Income From Operations		110.890
Net Business Income		110.890
Income+SS+Def. Tax--Cash & Non-Cash		0
Net Income		$110.890
		Accrual
Statement of Owner Equity		
Beginning Net Worth (Cost/Mrkt)		1.325.153
Net Income	+	110.890
Non-Business Cash Inflows	+	0
Owner Withdrawals (Cash)	-	100.000
Asset Valuation Change/Cont./Distrib.	+/-	$0
Calculated Ending Net Worth	=	1.336.043
Reported Ending Net Worth (Cost/Mrkt)		1.336.043
Discrepancy		($0)

Thank you!

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