

Enterprise Feasibility

How Much Risk Is Right For You?
 RightRisk

The USDA's Risk Management Agency and Oregon State University invite you to learn strategies for better managing risks in your operation. Participate in **Enterprise Feasibility**: to estimate enterprise cost of production, breakeven prices and risk exposure using RightRisk enterprise analysis tools.



Tuesday, March 13th 2012
 4:00 - 6:30 p.m.

Deschutes County Extension office
 3893 SW Airport Way, Redmond, OR

Deschutes County Fairgrounds - just off parking lot D

Program #1

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

Enterprise Feasibility - evaluate Oregon ag enterprise feasibility: 1) enterprise net returns, 2) breakeven price/yield, 3) enterprise risk exposure, 4) machinery costs, and more ...
 John Hewlett and Jay Parsons, Agricultural Economist, Colorado State University

Program #2

Tuesday, March 13th 2012 - 7:00 to 9:00 p.m.

Practice using RightRisk enterprise analysis tools using actual farm records/case study information (computers provided) to see how your operation compares to others, learn to analyze your own records, evaluate risk exposure and more. . . .

Lessons Learned - where do we go from here



Registration \$20/person (meal included) - To attend contact:

Dana Martin - Oregon State University

541-548-6088 ~ dana.martin@oregonstate.edu






Ag Risk 5

Sources and Tools Available for
Managing Risk on Farms and
Ranches in Oregon


Jay Parsons
John Hewlett






What is RISK?

- RISK: The probability of an event occurring that can negatively impact your:
 - *Current profit level*
 - *Financial situation (equity position)*
 - *Satisfaction and well-being*



Origin of Word RISK

- RISICARE
 - *Italian word*
 - *“TO DARE”*



Risk Tradeoffs

Profits are the returns for taking risks



- Upside: Greater risk taking usually leads to greater wealth over time
- Downside: Losses from risk taking can potentially be devastating
- Managing risks are a matter of evaluating tradeoffs.
- How much risk and how much stress are you willing to endure to potentially achieve higher returns?

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Sources of Risk

- Business Risks
 - Business risks are those risks that occur independently of the way a firm (or farm) is financed. Even with 100% equity (no debt obligations) these risks still occur.
- Sources of Business Risk
 - Market risk
 - Production risk
 - Institutional risk
 - Social risk
 - Legal risk
 - Human risk

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Marketing and Price Risk

Prices of inputs or outputs change after you commit to a plan of action.

What are Your Sources?

- Total national production
- Government programs
- Demand (including quality issues)
- Seasonal effects

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Marketing and Price Risk

What are Your Management Controls?

- Forward pricing or contracting
- Diversified market timing
- Diversified production
- Selecting low price risk enterprises
- Obtaining market outlook reports (information)
- Negotiated lease agreements
- Crop Insurance

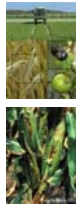
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Production Risk

Uncontrollable events such as weather, pests or disease make yields or inputs unpredictable.

What are Your Sources?

- Weather
- Pests
- Disease
- Genetic variations
- Timing of operations



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Production Risk

What are Your Management Controls?

- Selecting low production risk enterprises
- Using low-risk production practices
- Diversification
- Maintaining flexibility and extra capacity
- Utilizing land over a wide spread area
- Crop insurance

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Current Federal Insurance Options

<http://www.rma.usda.gov/pubs/2012/stateprofiles/oregon11.pdf>

Year	Policyholders	Net Acres	Liability	Gross Premiums	Losses	Loss Ratio
2000	1,100	1,100,000	\$1,100,000,000	\$1,100,000,000	\$1,100,000,000	100%
2001	1,100	1,100,000	\$1,100,000,000	\$1,100,000,000	\$1,100,000,000	100%
2002	1,100	1,100,000	\$1,100,000,000	\$1,100,000,000	\$1,100,000,000	100%
2003	1,100	1,100,000	\$1,100,000,000	\$1,100,000,000	\$1,100,000,000	100%
2004	1,100	1,100,000	\$1,100,000,000	\$1,100,000,000	\$1,100,000,000	100%
2005	1,100	1,100,000	\$1,100,000,000	\$1,100,000,000	\$1,100,000,000	100%
2006	1,100	1,100,000	\$1,100,000,000	\$1,100,000,000	\$1,100,000,000	100%
2007	1,100	1,100,000	\$1,100,000,000	\$1,100,000,000	\$1,100,000,000	100%
2008	1,100	1,100,000	\$1,100,000,000	\$1,100,000,000	\$1,100,000,000	100%
2009	1,100	1,100,000	\$1,100,000,000	\$1,100,000,000	\$1,100,000,000	100%
2010	1,100	1,100,000	\$1,100,000,000	\$1,100,000,000	\$1,100,000,000	100%
2011	1,100	1,100,000	\$1,100,000,000	\$1,100,000,000	\$1,100,000,000	100%

Institutional Risk

Government or other institutional rules, regulations and policies effect profitability through costs or returns.

What are Your Sources?

- Changes in social attitudes
- Changing regulations about land use and environmental quality
- The possibility of lawsuits for accidents or misuse of chemicals

Institutional Risk

What are Your Management Controls?

- Maintaining a liability insurance program
- Keeping informed of new regulations and interpretations of the law



Human Risk

The character, health or behavior of the people involved in your operation introduces risk.

What are Your Sources?

- Health issues
- Divorce
- The possibility of losing a key employee
- Moral or the mental state of the work force



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Human Risk

What are Your Management Controls?

- A backup management plan
- A plan to deal with the possible loss of a key employee
- Maintaining a health and life insurance program
- Establishing and maintaining an estate plan
- A good employee benefit package

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Sources of Risk in Agriculture – Ag Risk 5

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



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Financial Risk

Financial risk is the extra risk that is attached to being leveraged. It's the added variability that results from financial obligations associated with debt financing.

What are Your Sources?

- Possibility of losing a lease
- Production, prices, or casualty losses
- Instable financial partners
- Anything that would negatively affect cash flow and the ability to meet debt obligations

Financial Risk

What are Your Management Controls?

- Maintaining a financial cushion
- Practicing solid land leasing strategies
- Incorporating all or part of your operation
- Maintaining up-to-date financial information

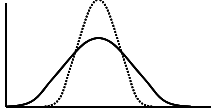


Strategies for Managing Risk

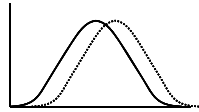
1. Avoid it
2. Reduce it
 - a) Reduce the probability it will happen
 - b) Reduce the impact if it does happen
3. Transfer it outside the business
 - a) Insurance
 - b) Contracting
4. Build your internal capacity to bear
 - a) Increase reserves
 - b) Maintain flexibility
5. Accept it

Strategy Impacts

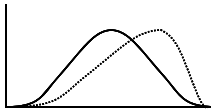
Panel 1: Same Mean, Less Dispersion



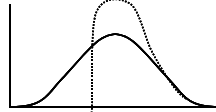
Panel 2: Same Dispersion, Higher Mean



Panel 3: Skewing the distribution



Panel 4: Truncating the Distribution



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Personal Perspectives on Risk

- Generational differences
- Gender differences
- Life stage/family differences
- Life experiences

These are dynamic and change over time.

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Types of Risk Preference

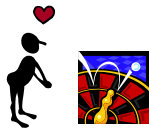
Risk Averse



Risk Neutral



Risk Loving



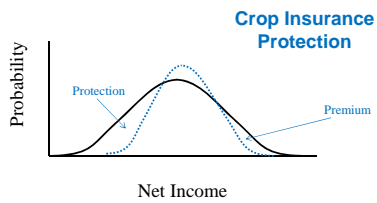
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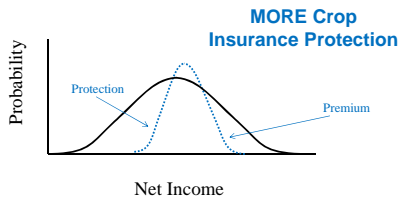
Risk Preference

Management situations with multiple decision makers are likely to have multiple risk preferences represented.

How much risk is right for you?



How much risk is right for you?





2011 Oregon Crop Insurance Profile

Insurance Plans Available in Oregon

Insurable Crops	Insured Acres	Total Acres	Percent Insured
Alfalfa Seed **	282	2,400	12%
Apple	2,934	6,000	49%
Barley	18,168	45,000	40%
Blueberry	2,069	6,100	34%
Cabbage	37	950	4%
Canola / Rapeseed	3,586	5,000	72%
Cherries	5,701	16,000	36%
Corn	29,764	75,000	40%
Cranberries	1,042	2,700	39%
Dry Beans	2,540	3,900	65%
Dry Peas	2,120	9,400	23%
Forage Production **	10,799	380,000	3%
Grapes	4,541	21,500	21%
Green Peas	10,121	13,000	78%
Mint	1,232	27,000	5%
Mustard	838	2,500	34%
Oats	1,927	12,000	16%
Onions	16,115	20,700	78%
Pears	7,798	18,000	43%
Potatoes	27,525	39,900	69%
Proc. Beans	1,193	14,000	9%
Proc. Sweet Corn	1,495	No Data	
Sugar Beets	6,951	8,800	79%
Stonefruit *	143	2,730	5%
Wheat	778,128	960,000	81%
Dollar Liability Programs		Total Dollar Liability	
Adjusted Gross Revenue Pilot			\$29,637,768
Adjusted Gross Revenue-Lite			\$30,752,293
Apiculture (Vegetation)			\$0
Livestock Gross Margin – Dairy			\$5,806,800
Livestock Risk Protection – Lamb			\$7,002,973
Livestock Risk Protection – Feeder Cattle			\$1,091,738
Nursery			\$275,146,359
Pasture/Rangeland/Forage (Vegetation)			\$241,275

Spokane Regional Office

Contact: Dave P. Paul, Director
Address: 11707 E Sprague Ave.
Suite #201
Spokane, WA 99206
Phone: (509) 228-6320
Fax: (509) 228-6321
E-Mail:
Dave.Paul@rma.usda.gov

Crop Pilot Programs

Program	County Availability
Adjusted Gross Revenue Pilot	Benton, Clackamas, Columbia, Lane, Linn, Malheur, Marion, Multnomah, Polk, Washington and Yamhill Counties
Apiculture (Vegetation)	All Counties
Cherries (Actual Revenue History)	Hood River, Marion, Polk, Umatilla, Union, Wasco and Yamhill Counties
Forage Seed (Alfalfa Type)	Malheur County
Livestock Gross Margin – Dairy	All Counties
Livestock Risk Protection – Lamb	All Counties
Livestock Risk Protection – Fed Cattle, Feeder Cattle, Swine	All Counties
Pasture/Rangeland/Forage (Vegetation)	All Counties

Western Regional Compliance Office

Contact: Susan Choy, Director
Address: 430 G Street, #4167
Davis, CA 95616-4167
Phone: (530) 792-5850
Fax: (530) 792-5865
E-Mail:
Susan.Choi@rma.usda.gov

* Fresh Apricots, Fresh Freestone Peaches, Fresh Nectarines, Fresh Plums/Prunes
** Percent insured not reflective of participation as program is only available in select counties.

Data as of January 2012



Risk Management Agency/USDA

Oregon

Fifteen Year Crop Insurance History


Year	Policies Earning Premium	Net Acres Insured	Liability	Gross Premium	Losses	Loss Ratio
1997	3,480	717,714	138,208,017	4,420,238	943,646	0.21
1998	3,169	755,077	147,860,489	4,731,858	1,297,517	0.27
1999	3,787	860,869	387,463,035	9,258,061	20,464,281	2.21
2000	3,838	924,081	367,014,387	12,550,234	20,371,211	1.62
2001	3,676	880,996	391,638,944	14,226,062	31,038,742	2.18
2002	3,620	943,699	452,048,005	16,994,381	52,630,130	3.10
2003	3,739	993,043	520,804,466	21,754,429	45,167,098	2.08
2004	3,623	918,600	590,009,769	19,646,277	9,637,310	0.49
2005	3,508	880,312	544,763,378	18,275,217	24,826,438	1.36
2006	3,448	869,792	634,657,298	20,494,564	14,573,947	0.71
2007	3,416	960,014	676,854,869	23,992,759	20,716,820	0.86
2008	3,357	1,117,708	755,042,570	29,224,313	33,469,076	1.15
2009	3,283	1,058,039	791,684,826	48,894,050	96,675,066	1.98
2010	3,449	1,051,480	765,612,776	34,769,213	8,121,099	0.23
2011*	3,523	942,842	729,961,859	43,996,637	6,669,994	0.15


* 2011 numbers are incomplete

NOTE: To see detailed information on the above 15 Year Crop Insurance History by County, go to RMA's Summary of Business Application at: <http://www3.rma.usda.gov/apps/sob/> and then click on the "Run Application" button. Select the State/County tab and then select the appropriate Year and State to get a listing by County. Select the desired output type – Formatted Print or Download Data to Excel.






Estimating Machinery Costs





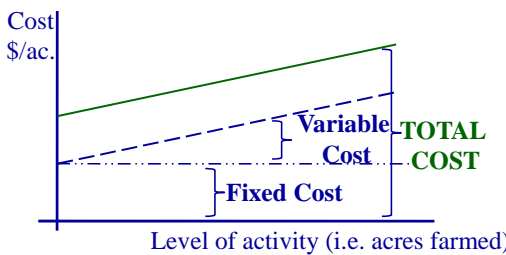
John Hewlett and Jay Parsons
Risk Management Specialists
RightRisk, LLC





Estimating Machinery Costs

- OWNERSHIP or FIXED COSTS
- OPERATING or VARIABLE COSTS



Magnitude of Costs



Machinery Labor VC	Machinery VC	Total VC	Machinery FC	Total FC
\$ 132.93	\$ 132.71	\$ 1,118.96	\$ 218.90	\$ 515.28
12%-VC	12%-VC		42%-FC	

M-Labor VC	Machinery TC	Total Cost
\$ 132.93	\$ 351.61	\$ 1,634.24
8%-TC	22%-TC	

M-Labor & Machinery	Total Cost
\$ 484.54	\$ 1,634.24
30%-TC	

BH Basin FARM – 600 ac

230 ac - Malting Barley
40 ac - Alfalfa
90 ac - Dry Beans
240 ac - Sugar Beets

Estimating Machinery Costs

OWNERSHIP or FIXED COSTS

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

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Estimating Machinery Costs

TAXES

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

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Estimating Machinery Costs

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.

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Estimating Machinery Costs

INSURANCE

The cost of insuring the farm/ranch machinery and equipment used in the production of the enterprise product(s) from loss.

Loss can result from theft, fire, or vandalism.



Estimating Machinery Costs

DEPRECIATION

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



Estimating Machinery Costs

LONG-TERM INTEREST

Long-term interest charges represent the cost of capital invested in the machinery and equipment used in the production of the enterprise product(s).



Estimating Machinery Costs

OPERATING or VARIABLE COSTS

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

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Estimating Machinery Costs

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).

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Estimating Machinery Costs

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.

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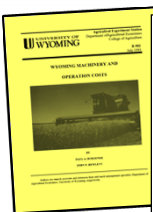
Estimating Machinery Costs

LABOR

Charges for day labor, hired labor, and owner/operator labor needed for the operation of machinery and equipment.



Estimating Machinery Costs



TAXES, HOUSING, AND INSURANCE (THI)

Taxes, housing, and insurance are referred to as THI in this report. The THI cost for each machinery item is computed using the appropriate THI rate from Table 1. Operators are required to pay property taxes on all farm machinery in Wyoming. Machinery exposed to weather will deteriorate and subsequently depreciate in value at a faster rate than covered equipment. Thus, a housing charge for all machinery is applied, even if the machine is not stored under a shelter. Machinery is insured against loss due to fire, theft, vandalism, etc. Premiums paid for insurance coverage are another cost of owning equipment.

The equation for estimating THI is:

$$THI = AMI \times THI \text{ Rate}$$

where,

- THI = Annual charge for taxes, housing, and insurance
- AMI = Average machinery investment (from opportunity interest calculations section)
- THI Rate = THI rate for machine, from Table 1

Computing the THI cost is illustrated below for the \$47,751 tractor from previous examples.

$$THI = \$47,751 \times 0.0277$$

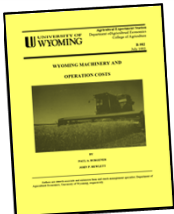
$$THI = \$1,322.59$$

Table 1. Taxes, Housing, and Insurance Percentages for Selected Machinery Groups

Machinery Group	Taxes	Housing	Insurance	THI Rate
Tractors	0.82%	1.50%	0.43%	2.75%
Pickups and automobiles	0.87%	1.50%	4.20%	6.57%
Heavy duty trucks	0.87%	1.50%	4.20%	6.57%



Estimating Machinery Costs



WHEEL TRACTORS - 300 PPD HP ROPS
REGULAR 4X4, 2500 POUND GVW, 2019 MODEL

Manufacturer	Model	Price	THI
Case IH	3218D	\$47,751	\$1,322.59
Fendt	300T	\$47,751	\$1,322.59
Kubota	3000	\$47,751	\$1,322.59
John Deere	S770	\$47,751	\$1,322.59
Case IH	3218D	\$47,751	\$1,322.59
Fendt	300T	\$47,751	\$1,322.59
Kubota	3000	\$47,751	\$1,322.59
John Deere	S770	\$47,751	\$1,322.59

ESTIMATED ANNUAL COSTS AND COST PER HOUR

WHEEL TRACTORS - 300 PPD HP ROPS
REGULAR 4X4, 2500 POUND GVW, 2019 MODEL

Manufacturer	Model	Price	THI
Case IH	3218D	\$47,751	\$1,322.59
Fendt	300T	\$47,751	\$1,322.59
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ESTIMATED ANNUAL COSTS AND COST PER HOUR



Estimating Machinery Costs

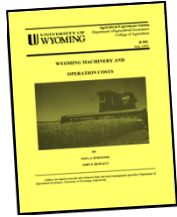


TABLE 4. SURVEY ITEMS AND UNITS (WYOMING) (UNIT: \$/HOUR)

ITEM	UNIT	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
MATERIALS																
1. FERTILIZER	100 lbs	1.20	1.25	1.30	1.35	1.40	1.45	1.50	1.55	1.60	1.65	1.70	1.75	1.80	1.85	1.90
2. PESTICIDES	100 lbs	1.50	1.55	1.60	1.65	1.70	1.75	1.80	1.85	1.90	1.95	2.00	2.05	2.10	2.15	2.20
TRACTORS																
3. TRACTOR (NEW)	hour	15.00	16.00	17.00	18.00	19.00	20.00	21.00	22.00	23.00	24.00	25.00	26.00	27.00	28.00	29.00
4. TRACTOR (USED)	hour	10.00	11.00	12.00	13.00	14.00	15.00	16.00	17.00	18.00	19.00	20.00	21.00	22.00	23.00	24.00
TRAILER EQUIPMENT																
5. TRAILER (NEW)	hour	12.00	13.00	14.00	15.00	16.00	17.00	18.00	19.00	20.00	21.00	22.00	23.00	24.00	25.00	26.00
6. TRAILER (USED)	hour	8.00	9.00	10.00	11.00	12.00	13.00	14.00	15.00	16.00	17.00	18.00	19.00	20.00	21.00	22.00
PLANTING EQUIPMENT																
7. PLANTER (NEW)	hour	20.00	21.00	22.00	23.00	24.00	25.00	26.00	27.00	28.00	29.00	30.00	31.00	32.00	33.00	34.00
8. PLANTER (USED)	hour	15.00	16.00	17.00	18.00	19.00	20.00	21.00	22.00	23.00	24.00	25.00	26.00	27.00	28.00	29.00
CULTIVATION EQUIPMENT																
9. CULTIVATOR (NEW)	hour	18.00	19.00	20.00	21.00	22.00	23.00	24.00	25.00	26.00	27.00	28.00	29.00	30.00	31.00	32.00
10. CULTIVATOR (USED)	hour	13.00	14.00	15.00	16.00	17.00	18.00	19.00	20.00	21.00	22.00	23.00	24.00	25.00	26.00	27.00
HARVEST EQUIPMENT																
11. HARVESTER (NEW)	hour	30.00	31.00	32.00	33.00	34.00	35.00	36.00	37.00	38.00	39.00	40.00	41.00	42.00	43.00	44.00
12. HARVESTER (USED)	hour	20.00	21.00	22.00	23.00	24.00	25.00	26.00	27.00	28.00	29.00	30.00	31.00	32.00	33.00	34.00

Estimating Machinery Costs

Important for:

- Estimating the cost of production for each farm/ranch enterprise (*and associated breakeven points of production*)
- Calculating custom operation rates

Wyoming Machinery Cost Calculation Program



by John P. Howlett
Farm Management Specialist
Dept. of Ag. & Applied Economics
University of Wyoming

Begin

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<http://agecon.uwo.edu/FarmMgt/PUBS/MACHBULS.HTM>



Enterprise Costs & Returns, Breakeven, and Risk

John Hewlett and Jay Parsons
Risk Management Specialists
RightRisk, LLC

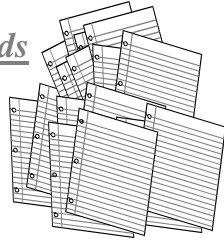
RMA
Risk Management Agency

RMA *RightRisk*

Got financial health?

Determining Your Financial Health: HOW?

× Financial Records



Components of a Complete Record System

1. Cash transactions
2. Physical inventories
3. Financial inventories
4. Financial statements
5. Production records
6. Labor and machinery records
7. Family accounts and non-farm business records
8. Records summaries



Determining Your Financial Health: HOW?

× Financial Records



× Financial Statements



Complete Financials Required

- Beginning and Ending Balance Sheets
- Cash Flow Statement
 - (Statement of Cash Flows)
- Accrual Adjusted Income Statement
- Statement of Changes in Owner Equity

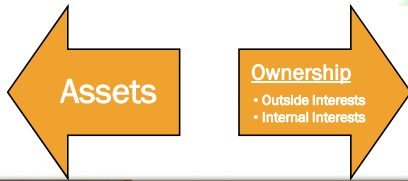
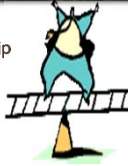


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Financial Statements

× Balance Sheets

- + Describe things of value and their ownership
- + Show values at a point in time (inventory), thus can be used to show changes over longer periods of time
- + Shows: $\text{Assets} = \text{Liabilities} + \text{Owner Equity}$



RMA 

Financial Statements

× Cash Flow Statement

- + Documents changes in cash balances over the period (Inflows/outflows)
- + Traditionally for agriculture this statement will show a month by month account

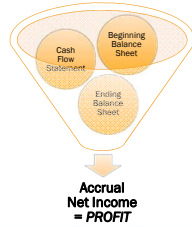


RMA 

Financial Statements

× Accrual Income Statement

- + Shows all changes in cash for the period
- + Shows all changes in non-cash accounts over the period
 - × Revenue items like increases in inventories, etc.
 - × Expense items like depreciation, accrued interest, accrued tax liabilities, etc.
- + Shows accrual net income or *profit for period*



RMA *SmartStart*

Financial Statements

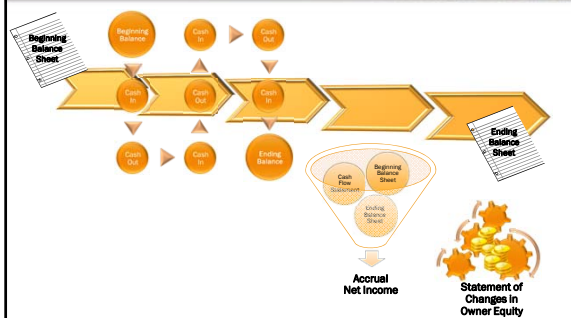
× Statement of Changes in Owner Equity

- + Shows impacts of changes described by the Income statement on *equity position*
- + Also documents any withdrawals or contributions of equity over the period



RMA *SmartStart*

Determining Your Financial Health: HOW?



RMA *SmartStart*

Parting Comment

Do not risk the future of your operation (family and business) with frustration over preparing detailed financial statements.

Just do it!



RMA RightRisk.org



RMA RightRisk.org



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Enterprise Risk Analyzer

General Inputs

Enterprise Index	Enterprise Description	Number of Units	Enterprise Value (\$/Acre)
Enterprise #1			
Enterprise #2			
Enterprise #3			
Enterprise #4			

Stocking Elements	Enterprise	Units per Enterprise	Units Stocked	Price per Unit	Total Operating Costs per Enterprise	Expected Mortality
	Elkwood					
	Elkwood					
	Elkwood					
	Elkwood					
	Elkwood					
	Elkwood					
	Elkwood					
	Elkwood					
	Elkwood					

Enterprise Risk Analyzer

Schedule F Income

SCHEDULE F (Form 1040) - Profit or Loss From Farming		2011
PART I Farm Income - Cash Method		
a	Specified sales of livestock and other taxable items	15a
b	Sales of livestock and other taxable items not reported on line 1a	15b
c	Total of line 1a and 1b	15c
d	Cost or other basis of livestock or other items reported on line 1c	15d
e	Subtract line 1d from 1c	15e
f	Specified sales of products you raised	2a
g	Sales of products you raised not reported on line 2a	2b
h	Total of line 2a and 2b	2c
i	Cooperatives or distributions (Form(s) 1099-DIV) - taxable amount	3a
j	Adjusted program payments - taxable amount	4a
k	Commodity Credit Corporation (CCC) loans - reported under election	5a
l	CCC loans forgiven - taxable amount	5b
m	Crop insurance proceeds and federal crop disaster payments	6
n	Amount reported on 2011 - taxable amount	7a
o	Amount deferred from 2010	7b
p	Total of line 7a and 7b	7c
q	Custom fee income not reported on line 7c	7d
r	Total of line 7c and 7d	7e
s	Specified other income	8a
t	Other income not reported on line 8a	8b
u	Less: expenses - Add amounts in the right column (lines 1a, 1b, 2a, 2b, 3a, 3b, 4a, 4b, 5a, 5b, 6a, 6b, 7a, 7b, 8a, and 8b)	9

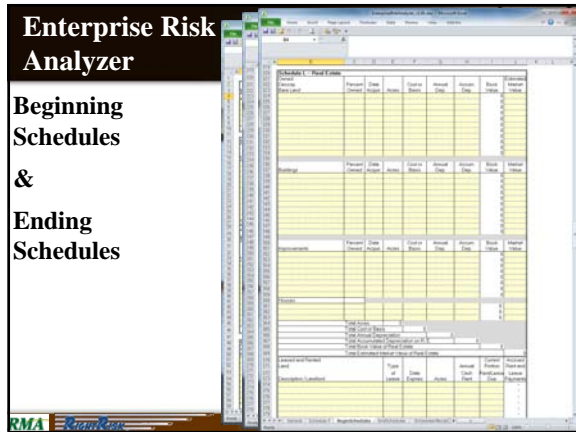
Enterprise Risk Analyzer

Schedule F Expenses

SCHEDULE F (Form 1040) - Profit or Loss From Farming		2011
PART II Farm Expenses - Cash and Accrual Method		
10	Oil and fuel expenses (see instructions, see also Form 652)	10
11	Commodity expenses	11
12	Custom hire (contracting)	12
13	Depreciation and section 179 expenses	13
14	Depreciable assets (other than line 13)	14
15	Feed	15
16	Fertilizers and lime	16
17	Planting and tilling	17
18	Contracting for land	18
19	Insurance (other than line 6)	19
20	Interest (other than line 6)	20
21	Transportation (see instructions)	21
22	Other (see instructions)	22
23	Health care (does not include line 6)	23
24	Repairs and maintenance	24
25	Professional services (other than line 13)	25
26	Other (does not include line 22)	26
27	Property taxes and interest	27
28	Storage and warehousing	28
29	Travel	29
30	Utilities	30
31	Veterinary, breeding, and medicine	31
32	Other expenses (see instructions)	32
33	Total expenses. Add lines 10 through 32	33
34	Net farm profit or (loss). Subtract line 33 from line 9	34

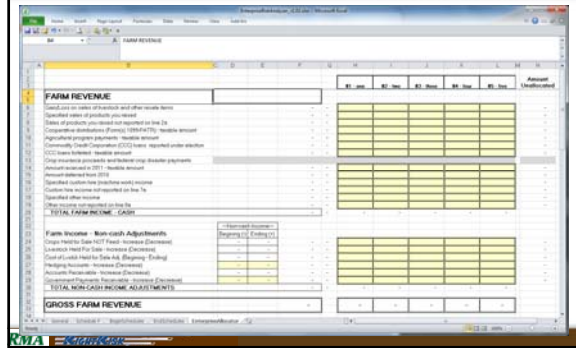
Enterprise Risk Analyzer

Beginning Schedules & Ending Schedules



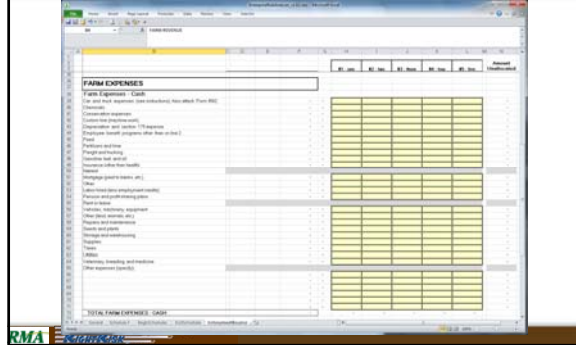
Enterprise Risk Analyzer

Enterprise Allocator Farm Revenue



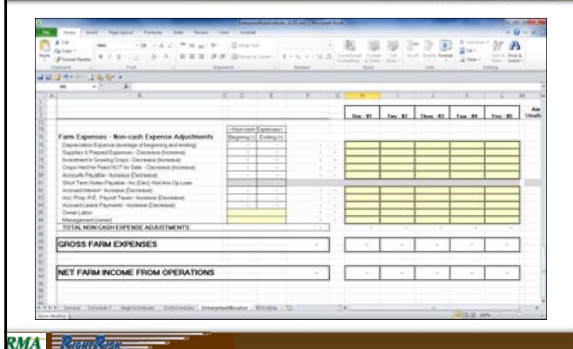
Enterprise Risk Analyzer

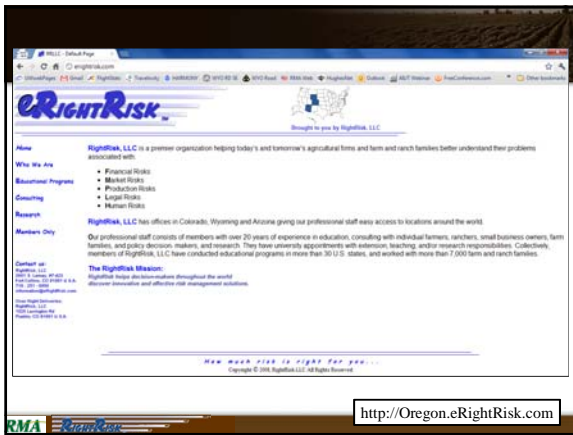
Enterprise Allocator Farm Cash Expenses



Enterprise Risk Analyzer

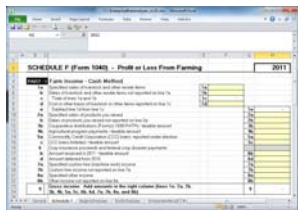
Enterprise Allocator Farm Non-cash Expenses



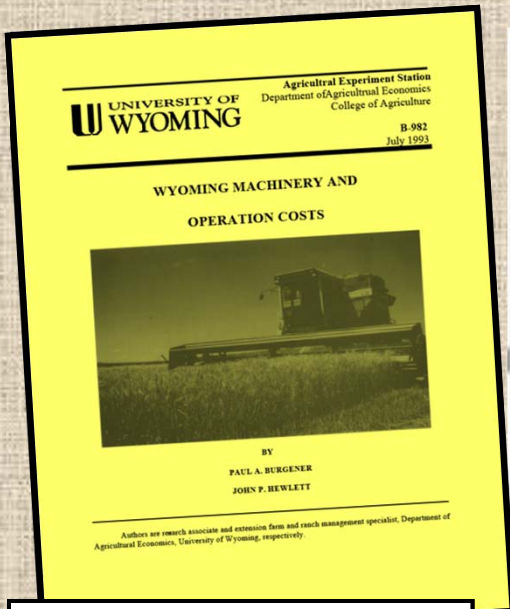


Practice Session

- Machinery Cost Calculator
- Enterprise Risk Analyzer
- General Risk Management Questions
- More . . .

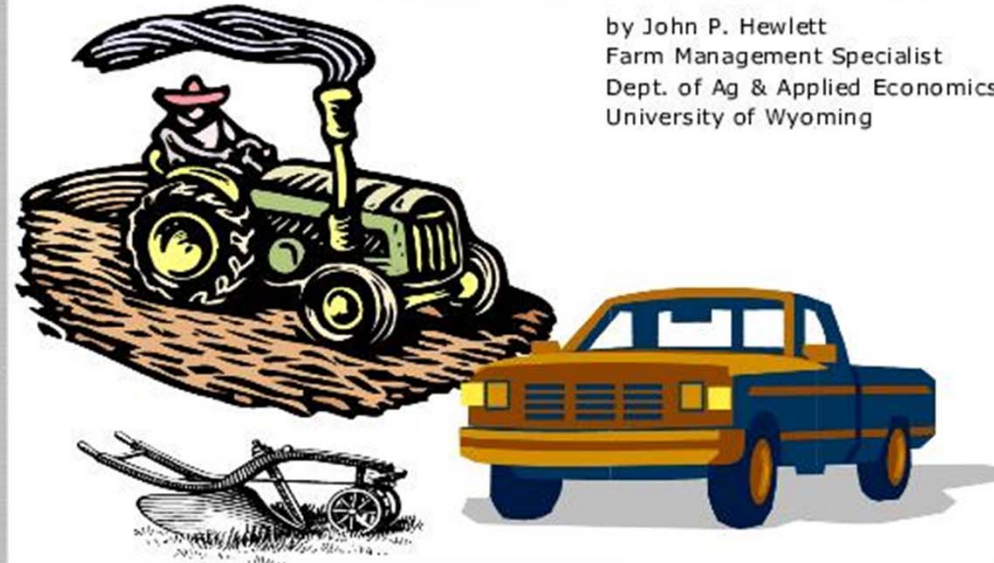






Wyoming Machinery Cost Calculation Program

by John P. Hewlett
Farm Management Specialist
Dept. of Ag & Applied Economics
University of Wyoming



Begin

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WHEEL TRACTOR - 180 PTO HP MFD MFD,CAB,AIR,STR,PWRSFT,PS,CATS,REMS,RT											
Purchase Price	->	224,664	Year Owned	->	1992	Hours to Maxout	->	10,000	Maximum Life	->	20 Years
Deg. Factor 1	->	0.48	Repair Factor 1	->	0.21	Deg. Factor 2	->	0.92	Repair Factor 2	->	2.00
FCO Recoverage	->	100	Percent Load Factor	->	40.00 %	Fuel Type	->	DIESEL	Fuel Price	->	\$2.00 Per Gal.
Fuel Consumption	->	6.82 Gal/Hr	Percent of Average Investment Charged for Opportunity Interest	->	3.55%	Percent of Average Investment Charged for Tax, Housing & Storage	->	2.77%			
ESTIMATED ANNUAL COSTS AND COST PER HOUR											
YEAR	HR	TRUCK	TRUCK	TRUCK	TRUCK	TRUCK	TRUCK	TRUCK	TRUCK	TRUCK	TRUCK
OPER	TRUCK	OPER	TRUCK	OPER	TRUCK	OPER	TRUCK	OPER	TRUCK	OPER	TRUCK
DEPR	DEPR	DEPR	DEPR	DEPR	DEPR	DEPR	DEPR	DEPR	DEPR	DEPR	DEPR
COST	COST	COST	COST	COST	COST	COST	COST	COST	COST	COST	COST
4 CTS	4 CTS	4 CTS	4 CTS	4 CTS	4 CTS	4 CTS	4 CTS	4 CTS	4 CTS	4 CTS	4 CTS
200	20.00	6,818	6,890	6,962	7,034	7,106	7,178	7,250	7,322	7,394	7,466
400	20.00	11,361	6,960	7,032	7,104	7,176	7,248	7,320	7,392	7,464	7,536
600	20.00	14,148	6,960	7,032	7,104	7,176	7,248	7,320	7,392	7,464	7,536
800	20.00	16,182	6,960	7,032	7,104	7,176	7,248	7,320	7,392	7,464	7,536
1000	20.00	17,526	6,960	7,032	7,104	7,176	7,248	7,320	7,392	7,464	7,536
1200	20.00	18,270	6,960	7,032	7,104	7,176	7,248	7,320	7,392	7,464	7,536
1400	20.00	18,714	6,960	7,032	7,104	7,176	7,248	7,320	7,392	7,464	7,536
1600	20.00	18,958	6,960	7,032	7,104	7,176	7,248	7,320	7,392	7,464	7,536
1800	20.00	19,042	6,960	7,032	7,104	7,176	7,248	7,320	7,392	7,464	7,536
2000	20.00	19,086	6,960	7,032	7,104	7,176	7,248	7,320	7,392	7,464	7,536
2200	20.00	19,090	6,960	7,032	7,104	7,176	7,248	7,320	7,392	7,464	7,536
2400	20.00	19,094	6,960	7,032	7,104	7,176	7,248	7,320	7,392	7,464	7,536
2600	20.00	19,098	6,960	7,032	7,104	7,176	7,248	7,320	7,392	7,464	7,536
2800	20.00	19,102	6,960	7,032	7,104	7,176	7,248	7,320	7,392	7,464	7,536
3000	20.00	19,106	6,960	7,032	7,104	7,176	7,248	7,320	7,392	7,464	7,536
3200	20.00	19,110	6,960	7,032	7,104	7,176	7,248	7,320	7,392	7,464	7,536
3400	20.00	19,114	6,960	7,032	7,104	7,176	7,248	7,320	7,392	7,464	7,536
3600	20.00	19,118	6,960	7,032	7,104	7,176	7,248	7,320	7,392	7,464	7,536
3800	20.00	19,122	6,960	7,032	7,104	7,176	7,248	7,320	7,392	7,464	7,536
4000	20.00	19,126	6,960	7,032	7,104	7,176	7,248	7,320	7,392	7,464	7,536
4200	20.00	19,130	6,960	7,032	7,104	7,176	7,248	7,320	7,392	7,464	7,536
4400	20.00	19,134	6,960	7,032	7,104	7,176	7,248	7,320	7,392	7,464	7,536
4600	20.00	19,138	6,960	7,032	7,104	7,176	7,248	7,320	7,392	7,464	7,536
4800	20.00	19,142	6,960	7,032	7,104	7,176	7,248	7,320	7,392	7,464	7,536
5000	20.00	19,146	6,960	7,032	7,104	7,176	7,248	7,320	7,392	7,464	7,536
5200	20.00	19,150	6,960	7,032	7,104	7,176	7,248	7,320	7,392	7,464	7,536
5400	20.00	19,154	6,960	7,032	7,104	7,176	7,248	7,320	7,392	7,464	7,536
5600	20.00	19,158	6,960	7,032	7,104	7,176	7,248	7,320	7,392	7,464	7,536
5800	20.00	19,162	6,960	7,032	7,104	7,176	7,248	7,320	7,392	7,464	7,536
6000	20.00	19,166	6,960	7,032	7,104	7,176	7,248	7,320	7,392	7,464	7,536
6200	20.00	19,170	6,960	7,032	7,104	7,176	7,248	7,320	7,392	7,464	7,536
6400	20.00	19,174	6,960	7,032	7,104	7,176	7,248	7,320	7,392	7,464	7,536
6600	20.00	19,178	6,960	7,032	7,104	7,176	7,248	7,320	7,392	7,464	7,536
6800	20.00	19,182	6,960	7,032	7,104	7,176	7,248	7,320	7,392	7,464	7,536
7000	20.00	19,186	6,960	7,032	7,104	7,176	7,248	7,320	7,392	7,464	7,536
7200	20.00	19,190	6,960	7,032	7,104	7,176	7,248	7,320	7,392	7,464	7,536
7400	20.00	19,194	6,960	7,032	7,104	7,176	7,248	7,320	7,392	7,464	7,536
7600	20.00	19,198	6,960	7,032	7,104	7,176	7,248	7,320	7,392	7,464	7,536
7800	20.00	19,202	6,960	7,032	7,104	7,176	7,248	7,320	7,392	7,464	7,536
8000	20.00	19,206	6,960	7,032	7,104	7,176	7,248	7,320	7,392	7,464	7,536
8200	20.00	19,210	6,960	7,032	7,104	7,176	7,248	7,320	7,392	7,464	7,536
8400	20.00	19,214	6,960	7,032	7,104	7,176	7,248	7,320	7,392	7,464	7,536
8600	20.00	19,218	6,960	7,032	7,104	7,176	7,248	7,320	7,392	7,464	7,536
8800	20.00	19,222	6,960	7,032	7,104	7,176	7,248	7,320	7,392	7,464	7,536
9000	20.00	19,226	6,960	7,032	7,104	7,176	7,248	7,320	7,392	7,464	7,536
9200	20.00	19,230	6,960	7,032	7,104	7,176	7,248	7,320	7,392	7,464	7,536
9400	20.00	19,234	6,960	7,032	7,104	7,176	7,248	7,320	7,392	7,464	7,536
9600	20.00	19,238	6,960	7,032	7,104	7,176	7,248	7,320	7,392	7,464	7,536
9800	20.00	19,242	6,960	7,032	7,104	7,176	7,248	7,320	7,392	7,464	7,536
10000	20.00	19,246	6,960	7,032	7,104	7,176	7,248	7,320	7,392	7,464	7,536

<http://agecon.uwyo.edu/FarmMgt/PUBS/MACHBULS.HTM>

Enterprise Titles	Enterprise Description	Number of Units	Enterprise Units (acres/head/cow)
Enterprise #1	Malting Barley	265	acres
Enterprise #2	Sugar Beets	250	acres
Enterprise #3	Grain Corn	90	acres
Enterprise #4	Silage Corn	90	acres
Enterprise #5	Alfalfa (est+growing)	140	acres

Stochastic Elements	Estimate	Yield per Enterprise Unit	Units (bu/ton/lbs)	Price per Unit	Total Operating Costs per Enterprise Unit	Expected Revenue per Enterprise Unit (most likely)
Malting Barley	<i>Minimum</i>	32	bu	\$ 1.75		\$ 311.30
	Most Likely	110		\$ 2.83		
	<i>Maximum</i>	140		\$ 4.00		
Sugar Beets	<i>Minimum</i>	14	ton	\$ 32.00		\$ 875.38
	Most Likely	22		\$ 39.79		
	<i>Maximum</i>	25		\$ 43.00		
Grain Corn	<i>Minimum</i>	0	bu	\$ 2.00		\$ 344.40
	Most Likely	140		\$ 2.46		
	<i>Maximum</i>	180		\$ 6.00		
Silage Corn	<i>Minimum</i>	18	ton	\$ 13.00		\$ 460.00
	Most Likely	23		\$ 20.00		
	<i>Maximum</i>	27		\$ 26.00		
Alfalfa (est+growing)	<i>Minimum</i>	2.5	ton	\$ 55.00		\$ 270.41
	Most Likely	3.75		\$ 72.11		
	<i>Maximum</i>	5		\$ 150.00		

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	-
b	Sales of livestock and other resale items not reported on line 1a	1b	
c	Total of lines 1a and 1b	1c	-
d	Cost or other basis of livestock or other items reported on line 1c	1d	
e	Subtract line 1d from line 1c	1e	-
2a	Specified sales of products you raised	2a	411,593
b	Sales of products you raised not reported on line 2a	2b	6,625
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	
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	418,218

PART - II Farm Expenses - Cash and Accrual Method.

10	Car and truck expenses (see instructions). Also attach Form 4562	10	
11	Chemicals	11	41,864
12	Conservation expenses	12	
13	Custom hire (machine work)	13	16,061
14	Depreciation and section 179 expense	14	
15	Employee benefit programs other than on line 2	15	
16	Feed	16	
17	Fertilizers and lime	17	51,164
18	Freight and trucking	18	
19	Gasoline, fuel, and oil	19	30,027
20	Insurance (other than health)	20	5,018
21	Interest		
a	Mortgage (paid to banks, etc.)	21a	29,060
b	Other	21b	9,030
22	Labor hired (less employment credits)	22	27,438
23	Pension and profit-sharing plans	23	
24	Rent or lease		
a	Vehicles, machinery, equipment	24a	
b	Other (land, animals, etc.)	24b	
25	Repairs and maintenance	25	30,169
26	Seeds and plants	26	21,837
27	Storage and warehousing	27	6,616
28	Supplies	28	1,253
29	Taxes	29	10,003
30	Utilities	30	
31	Veterinary, breeding, and medicine	31	
32	Other expenses (specify):		
a	crop insurance (barley)	32a	1,853
b	irrigation water	32b	8,000
c		32c	
d		32d	
e		32e	
f		32f	
33	Total expenses. Add lines 10 through 32f.	33	289,393

34	Net farm profit or (loss). Subtract line 33 from line 9	34	128,825
----	--	----	---------

FARM REVENUE

Gain/Loss on sales of livestock and other resale items	-	-
Specified sales of products you raised	411,593	0
Sales of products you raised not reported on line 2a	6,625	-
Cooperative distributions (Form(s) 1099-PATR) - taxable amount	-	-
Agricultural program payments - taxable amount	-	-
Commodity Credit Corporation (CCC) loans reported under election	-	-
CCC loans forfeited - taxable amount	-	-
Crop insurance proceeds and federal crop disaster payments	-	-
Amount received in 2011 - taxable amount	-	-
Amount deferred from 2010	-	-
Specified custom hire (machine work) income	-	-
Custom hire income not reported on line 7a	-	-
Specified other income	-	-
Other income not reported on line 8a	-	-
TOTAL FARM INCOME - CASH	418,218	-

Malting Barley	Sugar Beets	Grain Corn	Silage Corn	Alfalfa (est+growing)
-	-	-	-	-
82,494	218,845	30,996	41,400	37,858
6,625	-	-	-	-
-	-	-	-	-
-	-	-	-	-
-	-	-	-	-
-	-	-	-	-
-	-	-	-	-
-	-	-	-	-
-	-	-	-	-
-	-	-	-	-
-	-	-	-	-
-	-	-	-	-
89,119	218,845	30,996	41,400	37,858

Farm Income - Non-cash Adjustments

--Non-cash Income--	
Beginning (-)	Ending (+)
-	-
-	-
-	-
-	-
-	-
-	-
-	-
-	-
-	-

Crops Held for Sale NOT Feed - Increase (Decrease)	-	-
Livestock Held For Sale - Increase (Decrease)	-	-
Cost of Lvstck Held for Sale Adj. (Beginning - Ending)	-	-
Hedging Accounts - Increase (Decrease)	-	-
Accounts Receivable - Increase (Decrease)	-	-
Government Payments Receivable - Increase (Decrease)	-	-
TOTAL NON-CASH INCOME ADJUSTMENTS	-	-

-	-	-	-	-
-	-	-	-	-
-	-	-	-	-
-	-	-	-	-
-	-	-	-	-
-	-	-	-	-
-	-	-	-	-
-	-	-	-	-
-	-	-	-	-
-	-	-	-	-

GROSS FARM REVENUE 418,218

89,119	218,845	30,996	41,400	37,858
--------	---------	--------	--------	--------

FARM EXPENSES**Farm Expenses - Cash**

Car and truck expenses (see instructions). Also attach Form 4562	-	-
Chemicals	41,864	-
Conservation expenses	-	-
Custom hire (machine work)	16,061	-
Depreciation and section 179 expense	-	-
Employee benefit programs other than on line 2	-	-
Feed	-	-
Fertilizers and lime	51,164	-
Freight and trucking	-	-
Gasoline, fuel, and oil	30,027	-
Insurance (other than health)	5,018	-
Interest	-	-
Mortgage (paid to banks, etc.)	29,060	-
Other	9,030	-
Labor hired (less employment credits)	27,438	-
Pension and profit-sharing plans	-	-
Rent or lease	-	-
Vehicles, machinery, equipment	-	-
Other (land, animals, etc.)	-	-
Repairs and maintenance	30,169	-
Seeds and plants	21,837	-
Storage and warehousing	6,616	-
Supplies	1,253	-
Taxes	10,003	-
Utilities	-	-
Veterinary, breeding, and medicine	-	-
Other expenses (specify):	-	-
crop insurance (barley)	1,853	-
irrigation water	8,000	-
-	-	-
-	-	-
-	-	-
TOTAL FARM EXPENSES - CASH	289,393	-

-	-	-	-	-
1,450	31,361	3,842	3,842	1,369
-	-	-	-	-
2,229	5,903	325	6,805	799
-	-	-	-	-
-	-	-	-	-
-	-	-	-	-
12,146	17,986	8,547	8,547	3,938
-	-	-	-	-
5,925	13,115	3,540	3,551	3,896
1,143	2,392	510	446	527
-	-	-	-	-
8,785	9,949	3,345	3,158	3,823
2,058	3,925	1,219	946	882
6,163	10,394	2,625	2,620	5,636
-	-	-	-	-
-	-	-	-	-
7,471	12,109	2,990	3,229	4,370
5,915	8,125	3,623	1,969	2,205
4,966	1,650	-	-	-
186	388	44	44	591
3,027	3,418	1,164	1,086	1,308
-	-	-	-	-
1,853	-	-	-	-
2,663	2,282	822	822	1,411
-	-	-	-	-
-	-	-	-	-
-	-	-	-	-
65,980	122,997	32,596	37,065	30,755

Farm Expenses - Non-cash Expense Adjustments

--Non-cash Expenses--	
Beginning (-)	Ending (+)
36,697	36,697
-	-
-	-
-	-
-	-
-	-
-	-
-	-
-	-
-	-
-	-
-	-
-	-
-	-
-	-
29,968	29,968
35,419	35,419

Depreciation Expense (average of beginning and ending)	36,697	0
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 - Increase (Decrease)	-	-
Acc. Prop, R.E., Payroll Taxes - Increase (Decrease)	-	-
Accrued Lease Payments - Increase (Decrease)	-	-
Owner Labor	29,968	29,968
Management (owner)	35,419	35,419
TOTAL NON-CASH EXPENSE ADJUSTMENTS	102,084	-

9,343	14,297	4,448	3,743	4,866
-	-	-	-	-
-	-	-	-	-
-	-	-	-	-
-	-	-	-	-
-	-	-	-	-
-	-	-	-	-
-	-	-	-	-
-	-	-	-	-
-	-	-	-	-
4,766	13,314	3,570	4,049	4,269
7,634	15,491	3,952	4,712	3,630
21,743	43,102	11,970	12,504	12,765

GROSS FARM EXPENSES 391,477

87,723	166,099	44,566	49,569	43,520
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NET FARM INCOME FROM OPERATIONS 26,741

1,396	52,746	(13,570)	(8,169)	
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	Malting Barley	Sugar Beets	Grain Corn	Silage Corn	Alfalfa (est+growing)
FARM REVENUE					
TOTAL FARM INCOME - CASH	89,119.00	218,845.00	30,996.00	41,400.00	37,858.00
TOTAL NON-CASH INCOME ADJUSTMENTS					
GROSS FARM REVENUE	89,119.00	218,845.00	30,996.00	41,400.00	37,858.00
FARM EXPENSES					
FARM EXPENSES - CASH	65,980.00	122,997.00	32,596.00	37,065.00	30,755.00
FARM EXPENSES - NON-CASH EXPENSE ADJUSTMENTS	21,743.00	43,102.00	11,970.00	12,504.00	12,765.00
GROSS FARM EXPENSES	87,723.00	166,099.00	44,566.00	49,569.00	43,520.00
NET FARM INCOME FROM OPERATIONS	1,396.00	52,746.00	(13,570.00)	(8,169.00)	(5,662.00)

Break-Even Price Analysis					
		Sugar Beets	Grain Corn	Silage Corn	Alfalfa (est+growing)
YIELD PER ENTERPRISE UNIT					
<i>Maximum</i>	140	25	180	27	5
Most Likely	110	22	140	23	3.75
<i>Minimum</i>	32	14	0	18	2.5
BREAK-EVEN PRICE - CASH EXPENSES					
<i>Minimum</i>	1.78	19.68	2.01	15.25	43.94
Most Likely	2.26	22.36	2.59	17.91	58.58
<i>Maximum</i>	7.78	35.14	∞	22.88	87.87
BREAK-EVEN PRICE - GROSS EXPENSES					
<i>Minimum</i>	2.36	26.58	2.75	20.40	62.17
Most Likely	3.01	30.20	3.54	23.95	82.90
<i>Maximum</i>	10.34	47.46	∞	30.60	124.34

Probability Analysis

[See Graph](#)

[See Graph](#)

[See Graph](#)

[See Graph](#)

[See Graph](#)

Break-Even Yield Analysis					
	Malting Barley	Sugar Beets	Grain Corn	Silage Corn	Alfalfa (est+growing)
PRICE PER UNIT					
<i>Maximum</i>	4	43	6	26	150
Most Likely	2.83	39.79	2.46	20	72.11
<i>Minimum</i>	1.75	32	2	13	55
BREAK-EVEN YIELD - CASH EXPENSES					
<i>Minimum</i>	62.25	11.44	60.36	15.84	1.46
Most Likely	87.98	12.36	147.23	20.59	3.05
<i>Maximum</i>	142.27	15.37	181.09	31.68	3.99
BREAK-EVEN YIELD - GROSS EXPENSES					
<i>Minimum</i>	82.76	15.45	82.53	21.18	2.07
Most Likely	116.97	16.70	201.29	27.54	4.31
<i>Maximum</i>	189.16	20.76	247.59	42.37	5.65

Probability Analysis

[See Graph](#)

[See Graph](#)

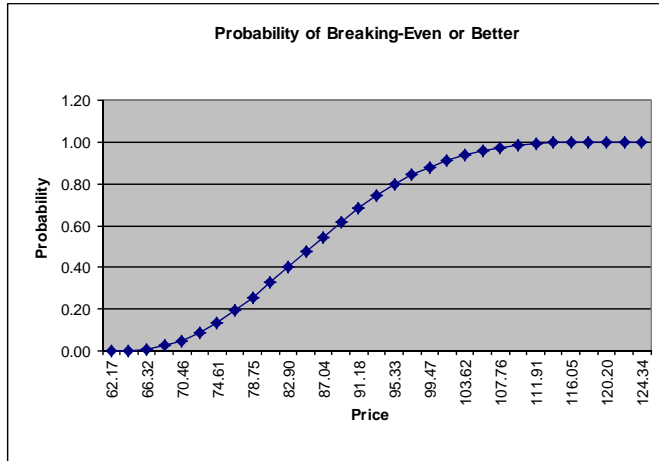
[See Graph](#)

[See Graph](#)

[See Graph](#)

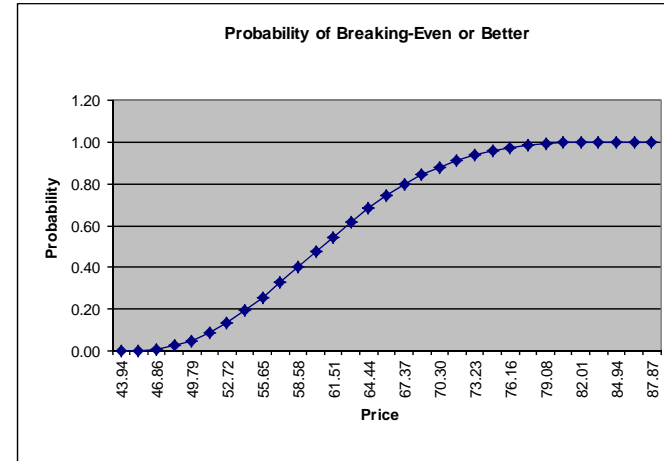
Break-Even Price Analysis

Break-Even Price - Gross Expenses



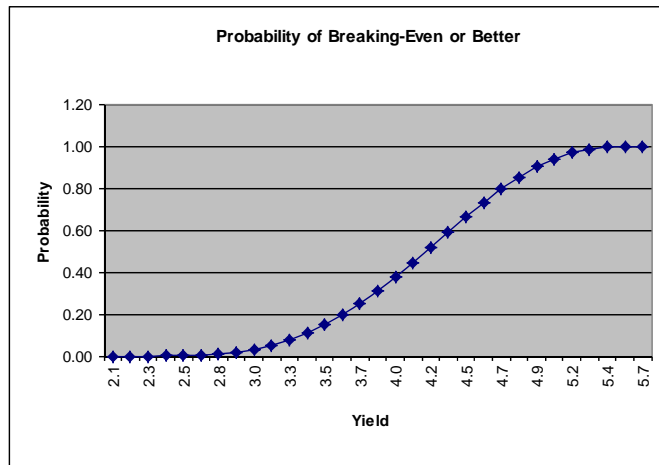
Alfalfa (est+growing)

Break-Even Price - Cash Expenses



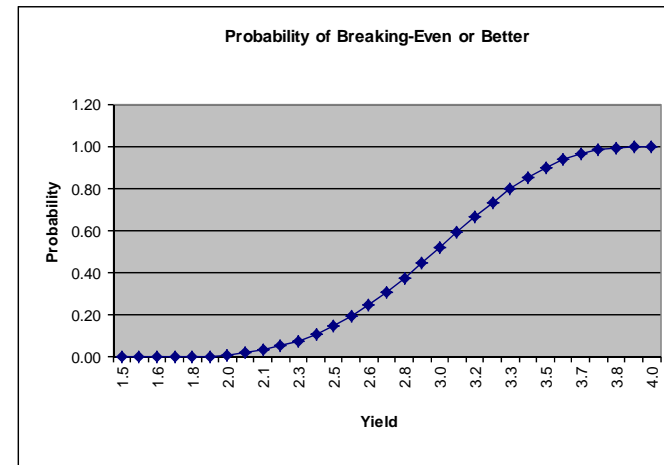
Break-Even Yield Analysis

Break-Even Yield - Gross Expenses



Alfalfa (est+growing)

Break-Even Yield - Cash Expenses

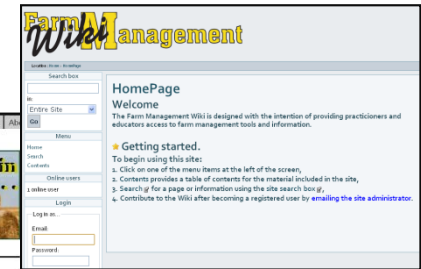




Important Web Sites

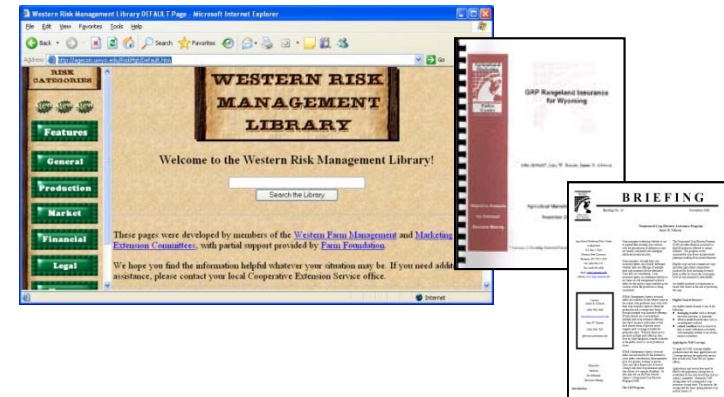
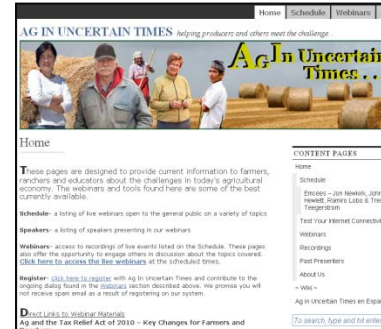
- ## Farm Management

<http://FarmManagement.org>



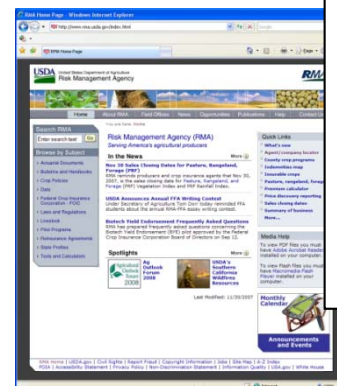
- ## Western Risk Management Library

<http://agecon.uwyo.edu/RiskMgt>



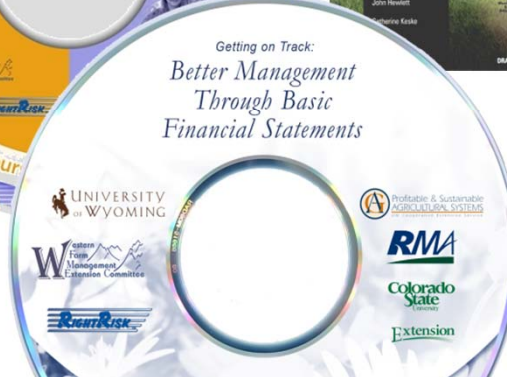
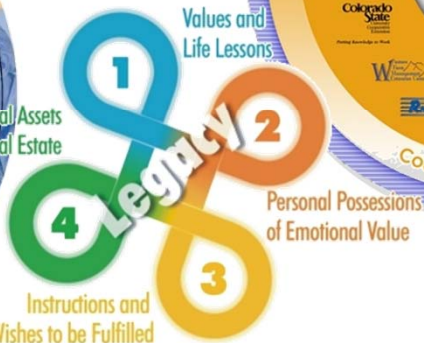
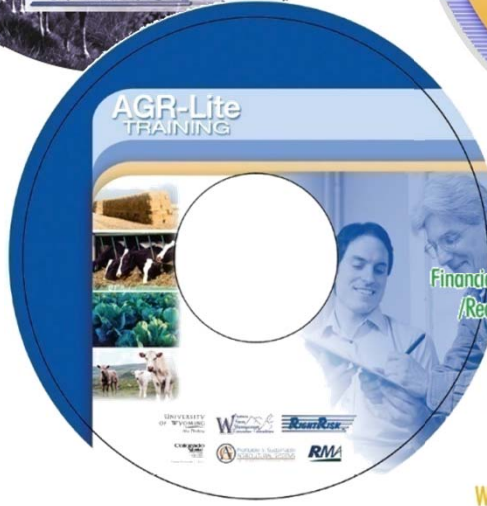
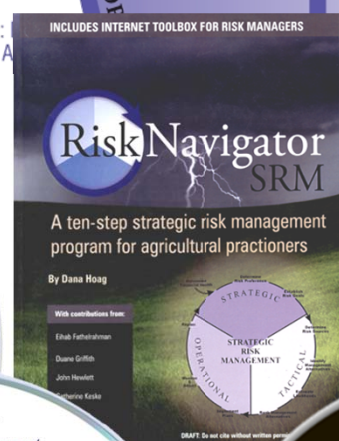
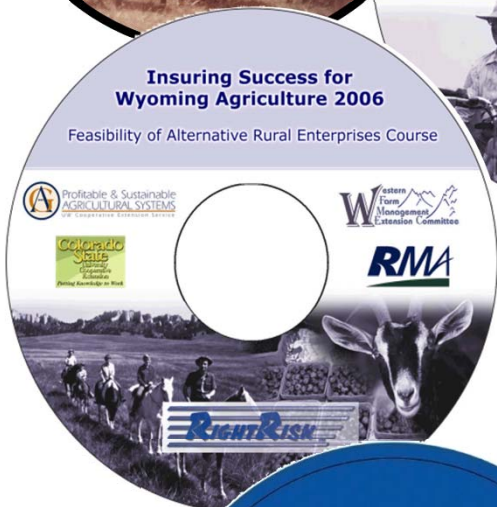
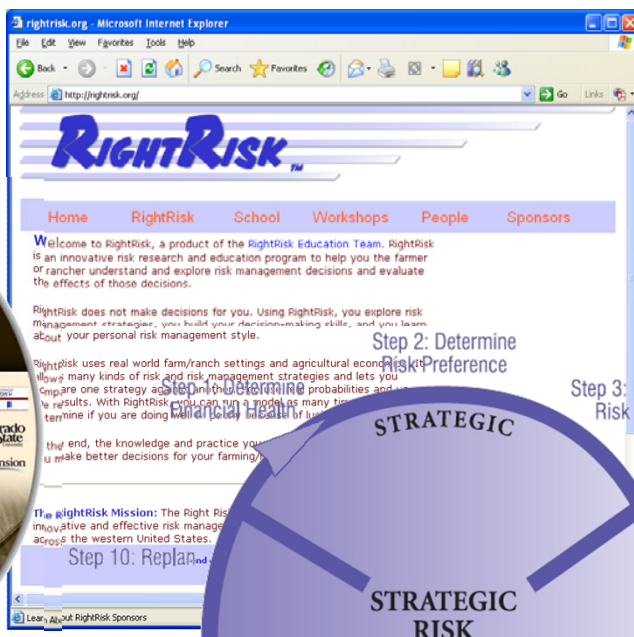
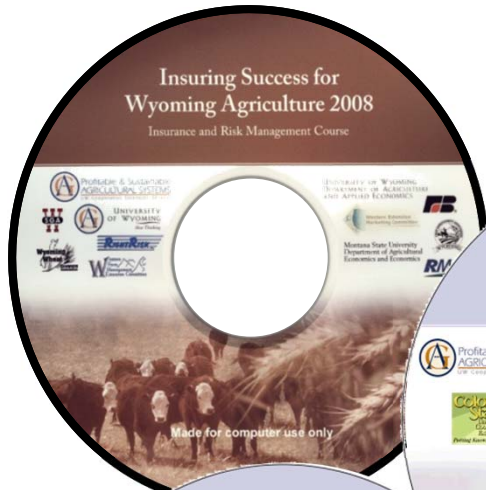
- ## Risk Management Agency (RMA)

<http://www.rma.usda.gov>



Risk Navigator SRM





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<http://RightRisk.org>