

# 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.



**Friday, March 16<sup>th</sup> 2012**  
 9:00 a.m. - noon  
**Klamath Community College - Room #206**  
 7390 South 6th Street, Klamath Falls OR

**Program #1**

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

**Friday, March 16<sup>th</sup> 2012 - 1:00 to 3:00 p.m.**  
**Klamath Community College - Room #306**

- P**ractice 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. . . .
- L**essons Learned - where do we go from here



**Register to attend by contacting:**  
 Willie Riggs - Oregon State University  
 541-883-7131 ~ willie.riggs@oregonstate.edu






## Ag Risk 5

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

**Jay Parsons**  
**John Hewlett**





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### 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*



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### Origin of Word RISK

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



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## 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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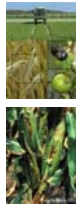
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## Production Risk

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>

Oregon  
Fifteen Year Crop Insurance History

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%

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## 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

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## Institutional Risk

### What are Your Management Controls?

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



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## 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

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## 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



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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. Build your internal capacity to bear
  - a) Increase reserves
  - b) Maintain flexibility
5. Accept it

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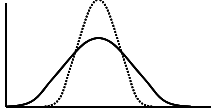
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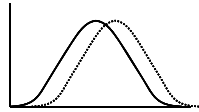
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## Strategy Impacts

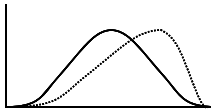
Panel 1: Same Mean, Less Dispersion



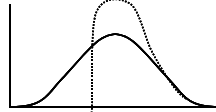
Panel 2: Same Dispersion, Higher Mean



Panel 3: Skewing the distribution



Panel 4: Truncating the Distribution



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Strategic Risk

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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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Strategic Risk

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## Types of Risk Preference

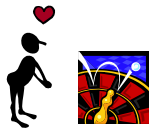
Risk Averse



Risk Neutral



Risk Loving



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Strategic Risk

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## Risk Preference

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

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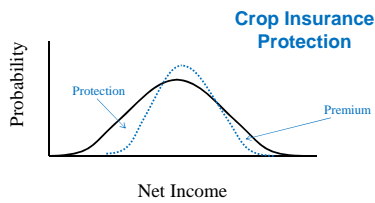
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## How much risk is right for you?



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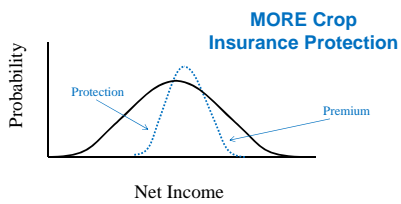
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## How much risk is right for you?



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# 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](mailto: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](mailto: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

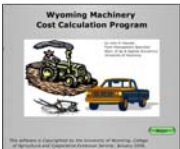
\* 2011 numbers are incomplete

**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



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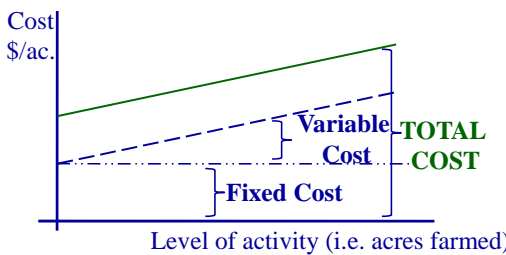
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## Estimating Machinery Costs

- OWNERSHIP or FIXED COSTS
- OPERATING or VARIABLE COSTS



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## Magnitude of Costs

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



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

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

**BH Basin FARM – 600 ac**

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

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## 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.



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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.



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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).



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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.



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# 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:

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

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 \$67,751 tractor from previous examples.

$$THI = \$43,883.98 \cdot 0.02777$$

$$THI = \$1,215.58$$

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%	2.77%
Pickups and automobiles	0.87%	1.50%	4.20%	6.57%
Heavy duty trucks	0.87%	1.50%	4.20%	6.57%



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# Estimating Machinery Costs



**WHEEL TRACTOR - 800 POUNDS WPT**  
DEPT. OF AGRICULTURE AND NUTRITION

Item	Unit	Price	Quantity	Total Cost
Operator	hour	\$15.00	2.00	\$30.00
Fuel	gallon	\$2.00	10.00	\$20.00
Lubrication	gallon	\$2.00	5.00	\$10.00
Tires	set	\$100.00	1.00	\$100.00
Maintenance	hour	\$15.00	2.00	\$30.00
Insurance	year	\$1,000.00	1.00	\$1,000.00
Taxes	year	\$500.00	1.00	\$500.00
Housing	year	\$100.00	1.00	\$100.00
Depreciation	year	\$200.00	1.00	\$200.00
Total				\$1,790.00

**ESTIMATED ANNUAL COSTS AND COST PER HOUR**

Item	Unit	Price	Quantity	Total Cost
Operator	hour	\$15.00	2.00	\$30.00
Fuel	gallon	\$2.00	10.00	\$20.00
Lubrication	gallon	\$2.00	5.00	\$10.00
Tires	set	\$100.00	1.00	\$100.00
Maintenance	hour	\$15.00	2.00	\$30.00
Insurance	year	\$1,000.00	1.00	\$1,000.00
Taxes	year	\$500.00	1.00	\$500.00
Housing	year	\$100.00	1.00	\$100.00
Depreciation	year	\$200.00	1.00	\$200.00
Total				\$1,790.00

**WHEEL TRACTOR - 200 POUNDS WPT**  
DEPT. OF AGRICULTURE AND NUTRITION

Item	Unit	Price	Quantity	Total Cost
Operator	hour	\$15.00	2.00	\$30.00
Fuel	gallon	\$2.00	10.00	\$20.00
Lubrication	gallon	\$2.00	5.00	\$10.00
Tires	set	\$100.00	1.00	\$100.00
Maintenance	hour	\$15.00	2.00	\$30.00
Insurance	year	\$1,000.00	1.00	\$1,000.00
Taxes	year	\$500.00	1.00	\$500.00
Housing	year	\$100.00	1.00	\$100.00
Depreciation	year	\$200.00	1.00	\$200.00
Total				\$1,790.00

**ESTIMATED ANNUAL COSTS AND COST PER HOUR**

Item	Unit	Price	Quantity	Total Cost
Operator	hour	\$15.00	2.00	\$30.00
Fuel	gallon	\$2.00	10.00	\$20.00
Lubrication	gallon	\$2.00	5.00	\$10.00
Tires	set	\$100.00	1.00	\$100.00
Maintenance	hour	\$15.00	2.00	\$30.00
Insurance	year	\$1,000.00	1.00	\$1,000.00
Taxes	year	\$500.00	1.00	\$500.00
Housing	year	\$100.00	1.00	\$100.00
Depreciation	year	\$200.00	1.00	\$200.00
Total				\$1,790.00



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## Estimating Machinery Costs

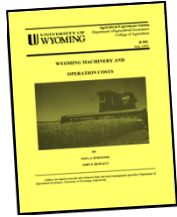


TABLE 4. MACHINERY STANDINGS AND OPERATING COSTS FOR WYOMING 2006

MACHINE	2006		2005		2004		2003		2002		2001		2000	
	Value	% Change	Value	% Change	Value	% Change	Value	% Change	Value	% Change	Value	% Change	Value	% Change
<b>MACHINERY</b>	1,145,000	1.5	1,128,000	1.5	1,112,000	1.5	1,096,000	1.5	1,080,000	1.5	1,064,000	1.5	1,048,000	1.5
<b>TRACTORS</b>	450,000	1.5	445,000	1.5	440,000	1.5	435,000	1.5	430,000	1.5	425,000	1.5	420,000	1.5
<b>TRACTOR EQUIPMENT</b>	695,000	1.5	683,000	1.5	672,000	1.5	660,000	1.5	648,000	1.5	636,000	1.5	624,000	1.5
<b>PLANTING EQUIPMENT</b>	15,000	1.5	14,500	1.5	14,000	1.5	13,500	1.5	13,000	1.5	12,500	1.5	12,000	1.5
<b>CULTIVATION EQUIPMENT</b>	150,000	1.5	148,000	1.5	146,000	1.5	144,000	1.5	142,000	1.5	140,000	1.5	138,000	1.5
<b>HARVEST EQUIPMENT</b>	430,000	1.5	420,000	1.5	410,000	1.5	400,000	1.5	390,000	1.5	380,000	1.5	370,000	1.5

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## 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

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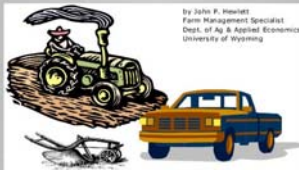
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### Wyoming Machinery Cost Calculation Program



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>

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**Enterprise Costs & Returns, Breakeven, and Risk**

John Hewlett and Jay Parsons  
Risk Management Specialists  
RightRisk, LLC

OSU EXTENSION  
100  
CENTENNIAL  
1911 - 2011

**RMA**  
Risk Management Agency

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Got financial health?

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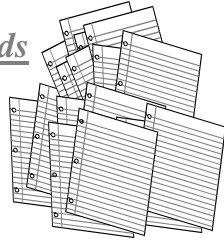
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Determining Your Financial Health: HOW?

× Financial Records



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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



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Determining Your Financial Health: HOW?

× Financial Records



× Financial Statements



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## 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



RMA 

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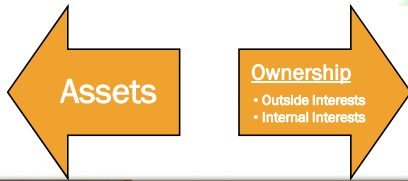
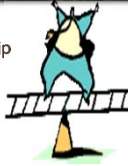
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## Financial Statements

### × 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 

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## 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 

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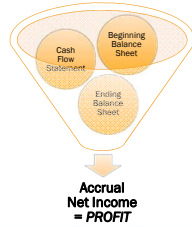
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## Financial Statements

### × 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*

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## 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*

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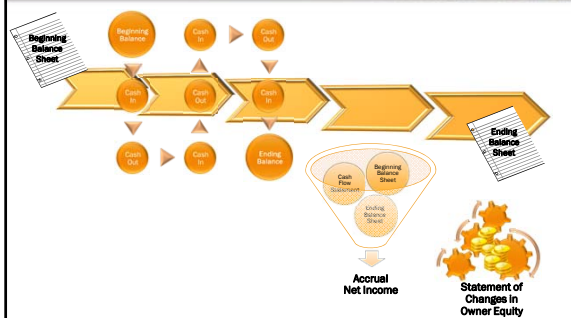
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## Determining Your Financial Health: HOW?



RMA *SmartStart*

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Balance Sheet			Liabilities			Income Statement - Annual Adj.		
	Beginning	Ending	Beginning	Ending				
Cash on Hand	20,000	22,000	Accounts Payable (Adj)	12,000	12,000	12,000	12,000	12,000
Notes Receivable	300,000	300,000	Current Portion (Adj)	18,000	18,000	18,000	18,000	18,000
Accounts Receivable	80,000	80,000	Other Current Liabilities	0	0	0	0	0
Other Current Assets (Adj)	0	0	Notes Payable (Adj)	0	0	0	0	0
Retained Earnings (Adj)	0	0	Total Current Liabilities	30,000	30,000			
Total Current Assets	380,000	402,000	Non-Current Liabilities	0	0			
Non-Current Assets	520,000	520,000	Long-Term Debt	0	0			
Total Assets	900,000	922,000	Total Liabilities	30,000	30,000			
Owner Equity	870,000	892,000	Owner Equity	870,000	892,000			
Total Equity	870,000	892,000	Total Equity	870,000	892,000			

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### Topics Examined With RDFinancial

- Owner Withdrawals
- Non-business income
- Government Payments
- Capital asset purchase
- Cost of Production
- Asset revaluation
- Debt Load (asset and liability structure)
- Risk Protection Tools (Insurance)
- Non-cash expense (not depreciation)
- Non-cash income
- Contributed capital
- Distributed capital

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### Determining Your Financial Health: HOW?

Financial Records  
 → Financial Statements  
 → Financial Analysis

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## 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](http://RightRisk.org)

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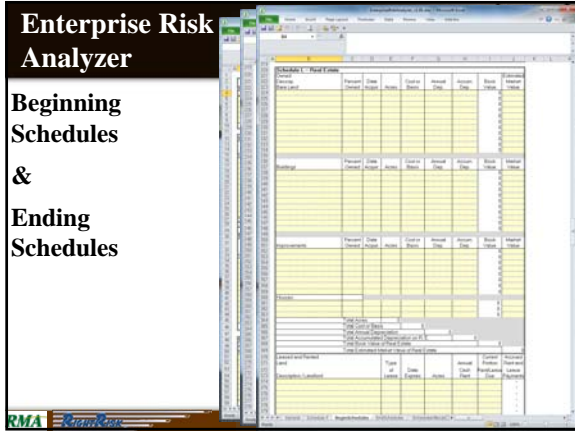
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# Enterprise Risk Analyzer

Beginning Schedules & Ending Schedules



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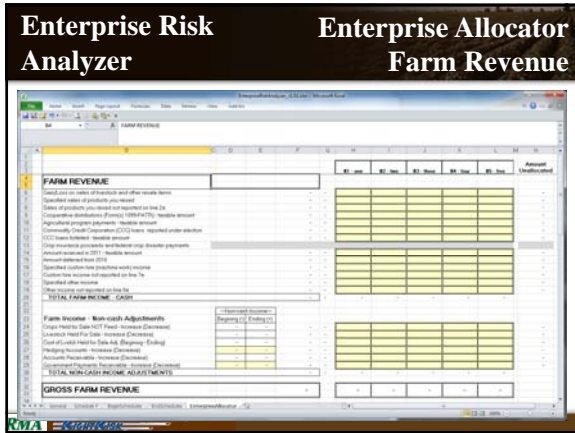
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# Enterprise Risk Analyzer

# Enterprise Allocator Farm Revenue



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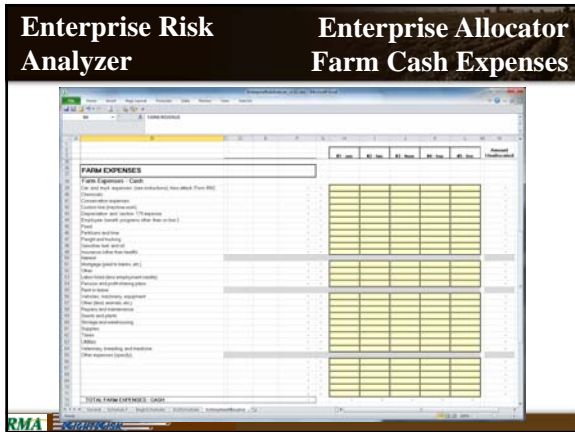
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# Enterprise Risk Analyzer

# Enterprise Allocator Farm Cash Expenses



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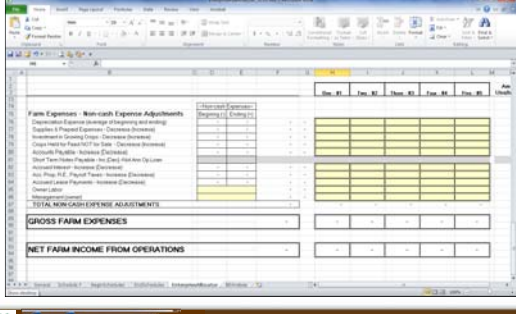
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## Enterprise Risk Analyzer      Enterprise Allocator Farm Non-cash Expenses



	Year 01	Year 02	Year 03	Year 04	Year 05	Year 06	Year 07
<b>Farm Expenses - Non-cash Expense Adjustments</b>							
Depreciation Expense (including amortization)							
Capital Expenditures (including farm equipment)							
Investment Contract (Expense)							
Other Assets for Depreciation (Expense)							
Retirement Expense (Expense)							
Short-Term Notes Payable (No Cash Paid Area by Line)							
Interest Expense (Expense)							
Auto Prop. P.M.E. (Expense)							
Adjusted Land Payments (Expense)							
Other Labor							
<b>TOTAL NON-CASH EXPENSE ADJUSTMENTS</b>							
<b>GROSS FARM EXPENSES</b>							
<b>NET FARM INCOME FROM OPERATIONS</b>							

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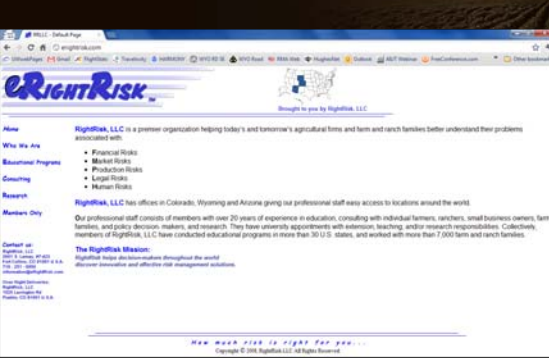
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**eRightRisk**  
Brought to you by RightRisk, LLC

Who We Are  
 • Financial Risks  
 • Market Risks  
 • Production Risks  
 • Legal Risks  
 • Human Risks

Research  
 RightRisk, LLC has offices in Colorado, Wyoming and Arizona giving our professional staff easy access to locations around the world.

Members Only  
 Our professional staff consists of members with over 20 years of experience in education, consulting with individual farmers, ranchers, small business owners, farm families, and policy decision makers, and research. They have university appointments with extension, teaching, and/or research responsibilities. Collectively, members of RightRisk, LLC have conducted educational programs in more than 30 U.S. states, and worked with more than 7,000 farms and ranch families.

The RightRisk Mission  
 RightRisk helps also innovators throughout the world discover innovative and effective risk management solutions.

<http://Oregon.eRightRisk.com>

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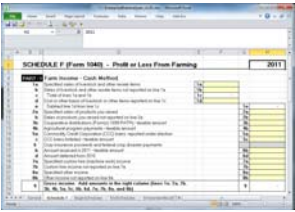
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## Practice Session

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


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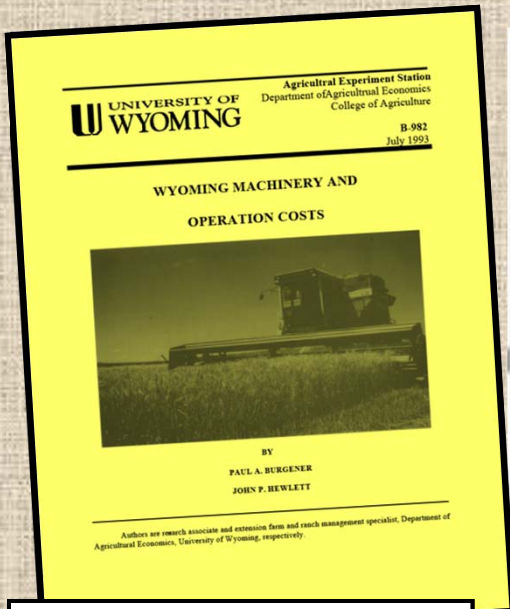
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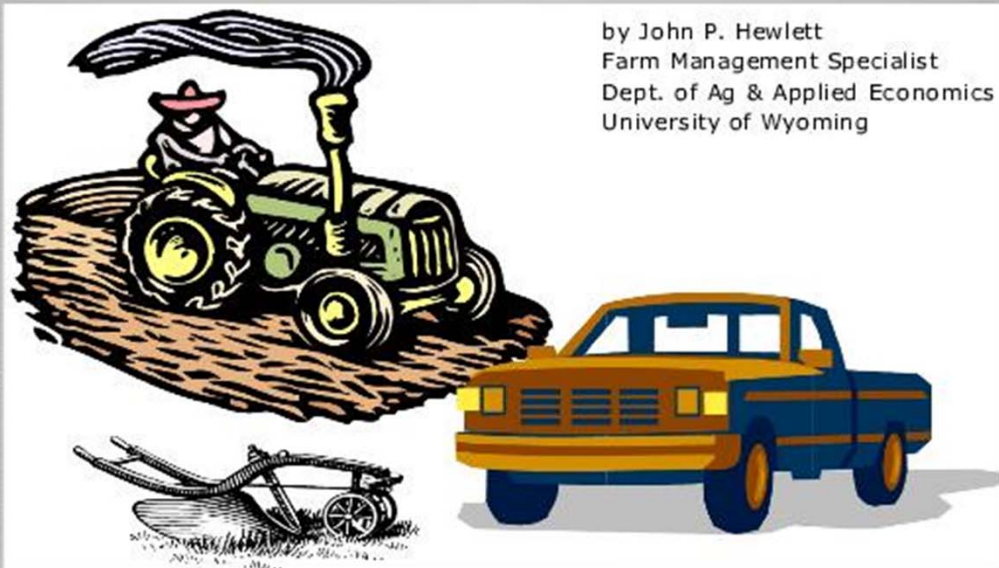
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# Wyoming Machinery Cost Calculation Program

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 -> 654,664 Year Quoted -> 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  
 PTO Horsepower -> 180 Percent Load Factor -> 60.00 %  
 Fuel Type -> DIESEL Fuel Price -> \$0.02 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**

HOURS PER YEAR	ANNUAL COSTS				COST PER HOUR			
	DEPR	INT	TAX	TOTAL	DEPR	INT	TAX	TOTAL
100	11,182	1,418	6,890	19,490	1.118	0.142	0.689	1.949
200	11,182	1,418	6,890	19,490	0.559	0.071	0.345	0.974
300	11,182	1,418	6,890	19,490	0.373	0.047	0.229	0.649
400	11,182	1,418	6,890	19,490	0.279	0.034	0.173	0.476
500	11,182	1,418	6,890	19,490	0.216	0.026	0.134	0.372
600	11,182	1,418	6,890	19,490	0.178	0.021	0.106	0.305
700	11,182	1,418	6,890	19,490	0.150	0.018	0.090	0.266
800	11,182	1,418	6,890	19,490	0.127	0.015	0.077	0.229
900	11,182	1,418	6,890	19,490	0.108	0.012	0.066	0.196
1000	11,182	1,418	6,890	19,490	0.092	0.010	0.057	0.170

WHEEL TRACTOR - 200 PTO HP MFD  
MFD,CAB,AIR,STR,PWRSFT,PS,CATS,REMS,RT

Purchase Price -> 697,771 Year Quoted -> 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  
 PTO Horsepower -> 200 Percent Load Factor -> 60.00 %  
 Fuel Type -> DIESEL Fuel Price -> \$0.02 Per Gal.  
 Fuel Consumption -> 11.73 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**

HOURS PER YEAR	ANNUAL COSTS				COST PER HOUR			
	DEPR	INT	TAX	TOTAL	DEPR	INT	TAX	TOTAL
100	11,182	1,418	6,890	19,490	1.118	0.142	0.689	1.949
200	11,182	1,418	6,890	19,490	0.559	0.071	0.345	0.974
300	11,182	1,418	6,890	19,490	0.373	0.047	0.229	0.649
400	11,182	1,418	6,890	19,490	0.279	0.034	0.173	0.476
500	11,182	1,418	6,890	19,490	0.216	0.026	0.134	0.372
600	11,182	1,418	6,890	19,490	0.178	0.021	0.106	0.305
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800	11,182	1,418	6,890	19,490	0.127	0.015	0.077	0.229
900	11,182	1,418	6,890	19,490	0.108	0.012	0.066	0.196
1000	11,182	1,418	6,890	19,490	0.092	0.010	0.057	0.170

<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
	<b>Most Likely</b>	110		\$ 2.83		
	<i>Maximum</i>	140		\$ 4.00		
Sugar Beets	<i>Minimum</i>	14	ton	\$ 32.00		\$ 875.38
	<b>Most Likely</b>	22		\$ 39.79		
	<i>Maximum</i>	25		\$ 43.00		
Grain Corn	<i>Minimum</i>	0	bu	\$ 2.00		\$ 344.40
	<b>Most Likely</b>	140		\$ 2.46		
	<i>Maximum</i>	180		\$ 6.00		
Silage Corn	<i>Minimum</i>	18	ton	\$ 13.00		\$ 460.00
	<b>Most Likely</b>	23		\$ 20.00		
	<i>Maximum</i>	27		\$ 26.00		
Alfalfa (est+growing)	<i>Minimum</i>	2.5	ton	\$ 55.00		\$ 270.41
	<b>Most Likely</b>	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	<b>Gross income. Add amounts in the right column (lines 1e, 2a, 2b, 3b, 4b, 5a, 5c, 6b, 6d, 7a, 7b, 8a, and 8b)</b>	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	<b>Total expenses. Add lines 10 through 32f.</b>	33	289,393

34	<b>Net farm profit or (loss). Subtract line 33 from line 9</b>	34	128,825
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	Malting Barley	Sugar Beets	Grain Corn	Silage Corn	Alfalfa (est+growing)
<b>FARM REVENUE</b>					
TOTAL FARM INCOME - CASH	89,119.00	218,845.00	30,996.00	41,400.00	37,858.00
TOTAL NON-CASH INCOME ADJUSTMENTS					
<b>GROSS FARM REVENUE</b>	89,119.00	218,845.00	30,996.00	41,400.00	37,858.00
<b>FARM EXPENSES</b>					
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
<b>GROSS FARM EXPENSES</b>	87,723.00	166,099.00	44,566.00	49,569.00	43,520.00
<b>NET FARM INCOME FROM OPERATIONS</b>	<b>1,396.00</b>	<b>52,746.00</b>	<b>(13,570.00)</b>	<b>(8,169.00)</b>	<b>(5,662.00)</b>

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

Probability Analysis

[See Graph](#)

[See Graph](#)

[See Graph](#)

[See Graph](#)

[See Graph](#)

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

Probability Analysis

[See Graph](#)

[See Graph](#)

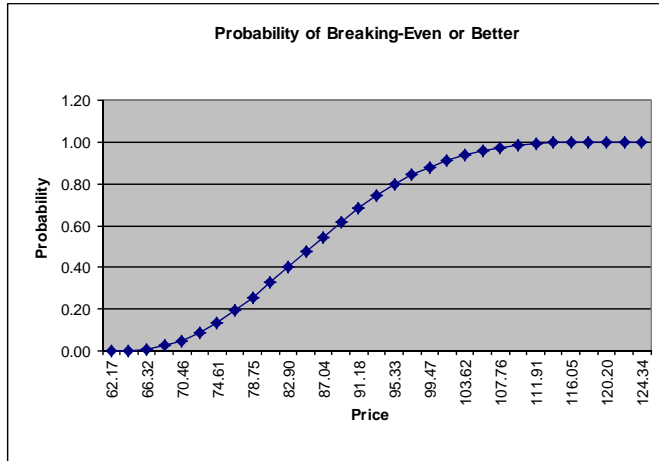
[See Graph](#)

[See Graph](#)

[See Graph](#)

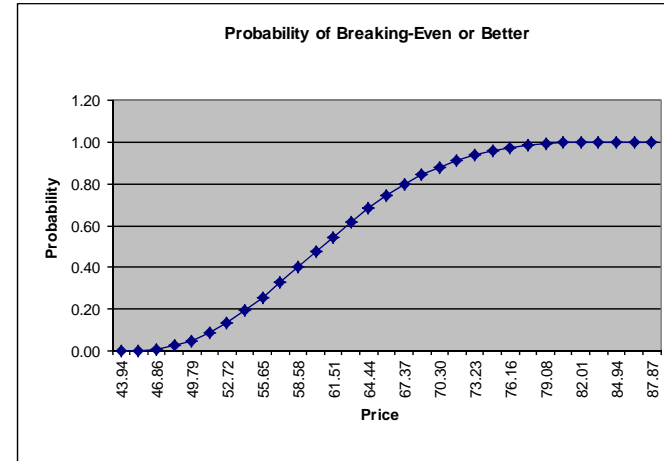
## Break-Even Price Analysis

Break-Even Price - Gross Expenses



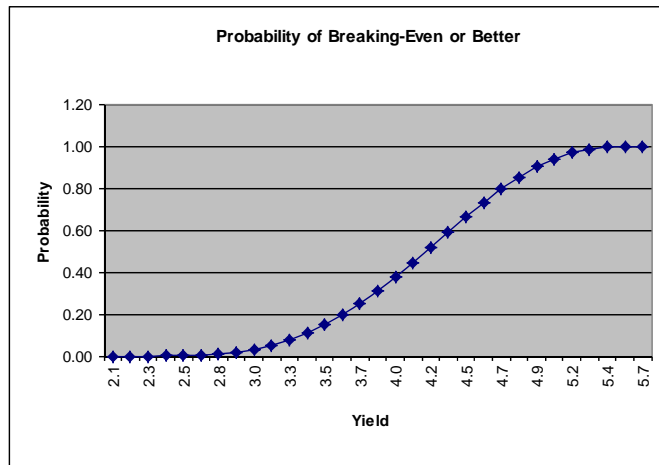
## Alfalfa (est+growing)

Break-Even Price - Cash Expenses



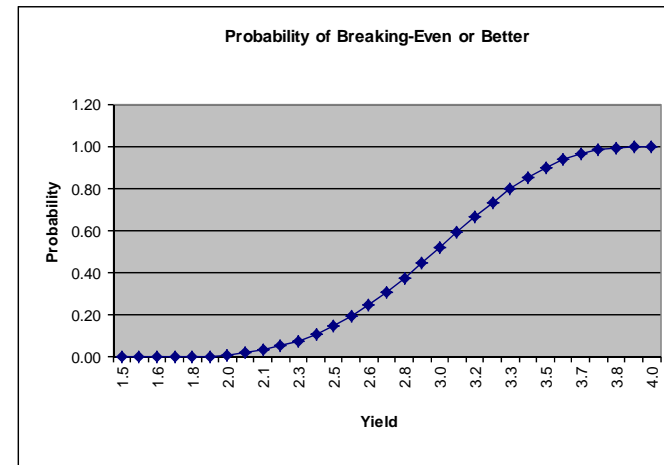
## Break-Even Yield Analysis

Break-Even Yield - Gross Expenses



## Alfalfa (est+growing)

Break-Even Yield - Cash Expenses



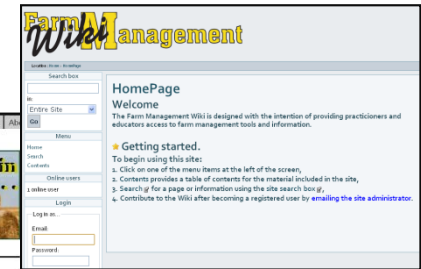




# Important Web Sites

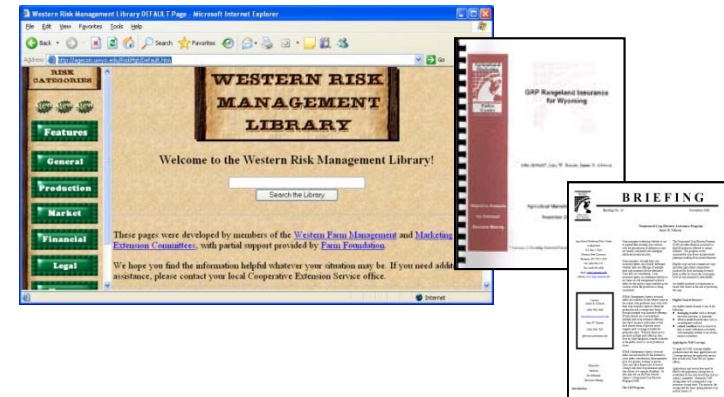
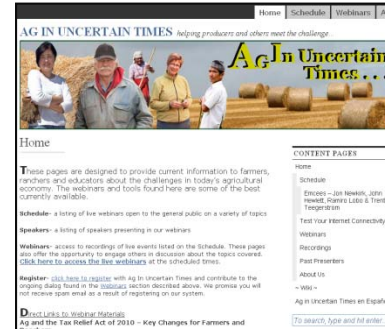
- **Farm Management**

<http://FarmManagement.org>



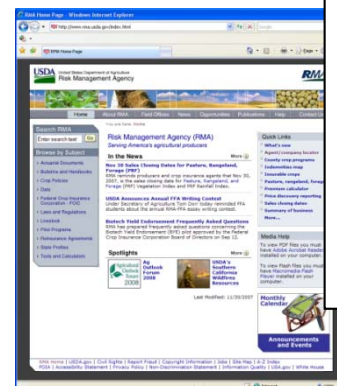
- **Western Risk Management Library**

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



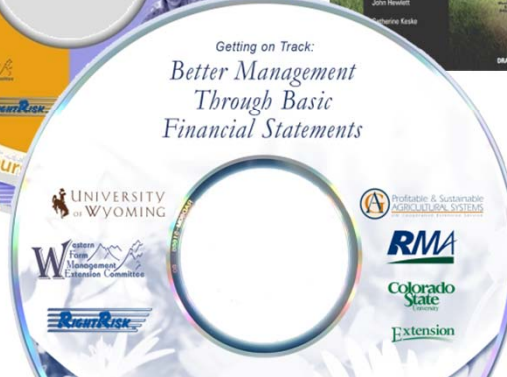
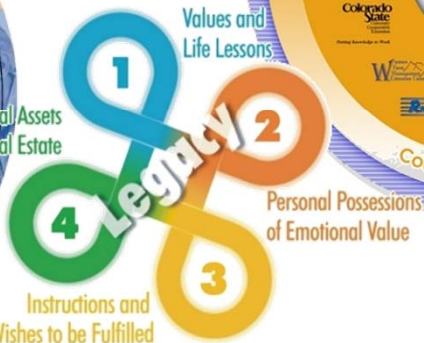
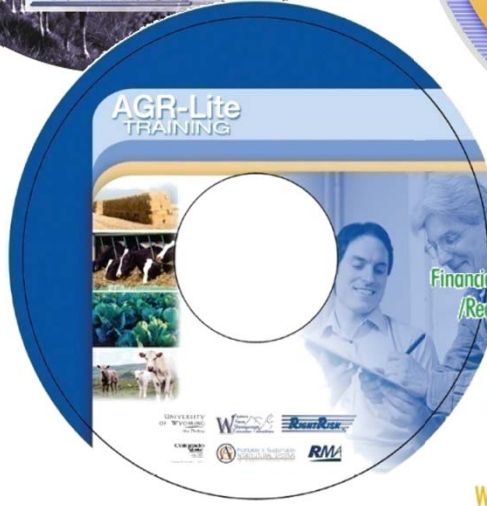
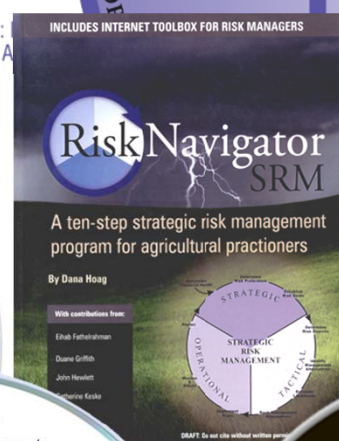
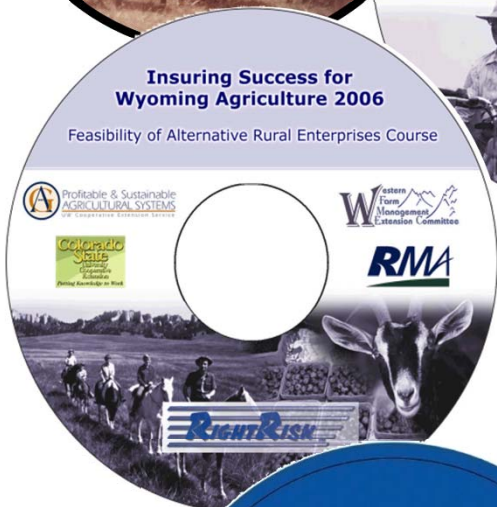
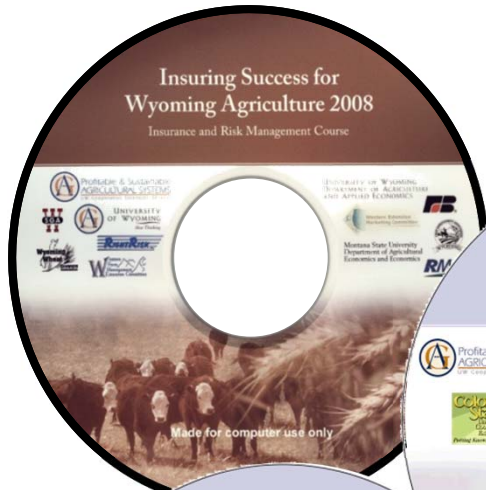
- **Risk Management Agency (RMA)**

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



Risk Navigator SRM





RIGHTRISK™

<http://RightRisk.org>