



## Risk Management Without Losing the Farm

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A product of:  
the *RightRisk*  
Education Team



## Sources of Risk

- **Production**- yield/quality variability
- **Marketing**- changes in price/external conditions
- **Financial**- variability in debt/equity capital and ability to meet cash demands
- **Legal**- responsibilities for contracts, statutory compliance, tort liability, and business structure
- **Human**- managing people and estate transfers



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# Example: Hay Storage

## Actions

Buy Hay	Do Nothing	Sell Hay
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# Example: Hay Storage

Possible  
Winter

Severe



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# Example: Hay Storage

Possible  
Winter

Normal



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# Example: Hay Storage

Possible  
Winter

Mild



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## Example: Hay Storage

		Actions		
Winter	Severe	Buy Hay	None	Sell Hay
		\$36,159	\$34,365	\$31,524
Normal	4/6	\$50,997	\$51,497	\$51,997
		\$52,997	\$53,997	\$54,997
Mild	1/6			

Which would you choose?

**RightRisk Payoff Matrix Exercise**


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## Example: Hay Storage

		Actions		
Winter	Prob.	Buy Hay	None	Sell Hay
		Severe	1/6	\$36,159
Normal	4/6	\$50,997	\$51,497	\$51,997
Mild	1/6	\$52,997	\$53,997	\$54,997

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## Example: Hay Storage

Winter	Prob.	Actions		
		Buy	Hold	Sell Hay
Severe				\$31,524
Normal	4/6	\$50,997	\$51,997	\$51,997
Mild	1/6	\$52,997	\$53,997	\$54,997
Exp. Value		\$48,857	\$49,058	\$49,085

Maximize Expected Value

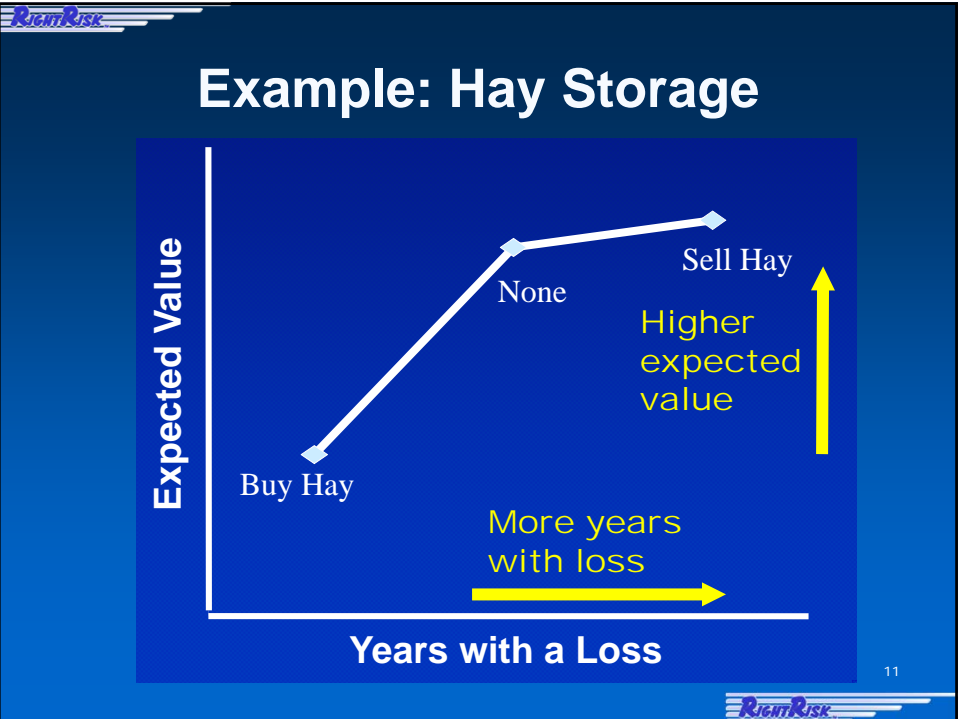
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## Example: Hay Storage

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Min. Value		\$36,159	\$34,365	\$31,524

Maximize Minimum Value

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**AG SURVIVOR**  
Scenario Selection

**Ag Survivor**

Provides an opportunity to practice risk management without the *real world* consequences

The bottom section of the slide features three illustrations: a roulette wheel on a yellow background, several dice scattered in the center, and a hand holding a fan of red playing cards on the right.

**Realistic Farm Setting and Ag Economy**

**Actual Weather, Price and Other Probabilities**

**Variety of Risks and Risk Management Scenarios**

**Customized to Your Location**

**Practice Risk Management Without Taking Risks**

RightRisk is a product of the RightRisk Education Team. RightRisk is a research and education program to help you the farmer and explore risk management decisions and evaluate them for you. Using RightRisk, you explore different risk management styles.

RightRisk uses real-world farm/ranch settings and agricultural economics. It allows many kinds of risk and risk management strategies and lets you compare one strategy against another. You use real probabilities and you see the results. With RightRisk, you can run a model as many times as you like to determine if you are doing well or poorly because of luck or bad strategy.

In the end, the knowledge and practice you gain through RightRisk will help you make better decisions for your farming/ranching operation.

*A product of the RightRisk Education Team:  
Colorado State University & University of Wyoming,  
University of Arizona, University of Idaho,  
Montana State University, University of Nevada, Utah  
State University, and Washington State University Extension cooperation.*

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and  
USDA - Risk Management Education

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**Risks**

**Outcomes**

**Big Horn Basin Farms**

**Decisions**

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# Production Risk



## Sources

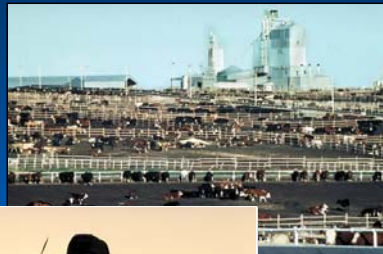
Weather, pests, disease, technology, genetics, inputs (availability, quality, price), equipment, labor ...

## Controls

Diversification, insurance (crop, revenue), buildings, storage, vaccines, labor, production contracts (e.g. ensure input supply and quality), new technologies (e.g. automate watering) ...

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# Marketing Risk



## Sources

Product quality (genetics, disease, handling, input/feed...)

Product price (quality, timing, global market, weather, government policy ...)

## Controls

Futures and options, forward contracting, retained ownership, quality controls, storage (timing), cooperatives, niche/value-added marketing...

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Big Horn Basin Farms

**Scenario Guide**

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General

**General Information**

<b>Crop Enterprise: Malt Barley</b>			
Crop acres:	265 acres	Normal annual yield:	110 bu./acre
Production cost per acre:	\$222.04	Initial market price:	\$2.83 per bushel
Output 2:	Barley Straw	Output 2 Annual Yield:	0.5 tons/acre
Output 2 Market Price:	\$50.00 per ton	Annual government payment:	\$4,956
<b>Crop Enterprise: Sugar Beets</b>			
Crop acres:	250 acres	Normal annual yield:	22 tons/acre
Production cost per acre:	\$506.97	Initial market price:	\$39.79 per ton
<b>Crop Enterprise: Corn Grain</b>			
Crop acres:	90 acres	Normal annual yield:	140 bu./acre
Production cost per acre:	\$360.98	Initial market price:	\$2.46 per bushel
Initial Inventory:	0 bushels	Annual government payment:	\$4,165
<b>Crop Enterprise: Corn Silage</b>			
Crop acres:	90 acres	Normal annual yield:	23 tons/acre
Production cost per acre:	\$428.49	Initial market price:	\$20.00 per ton
Initial Inventory:	0 tons	Annual government payment:	\$4,165
<b>Crop Enterprise: Alfalfa Hay</b>			
Crop acres:	105 acres	Normal annual yield:	5 tons/acre
Production cost per acre:	\$292.56	Initial market price:	\$72.11 per ton

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Expected Revenues			Expected Expenses		
Sales	Units	Revenue	Units	Expense	
Malt Barley	29,150 bushels	\$82,494.50	Malt Barley	265 acres	\$58,840.60
Barley Straw	133 tons	\$6,625.00	Sugar Beets	250 acres	\$126,742.50
Sugar Beets	5,500 tons	\$218,845.00	Corn Grain	90 acres	\$32,488.20
Corn Grain	12,600 bushels	\$30,996.00	Corn Silage	90 acres	\$38,564.10
Corn Silage	2,070 tons	\$41,400.00	Alfalfa Hay	105 acres	\$30,718.80
Alfalfa Hay	525 tons	\$37,857.75	Cost adjustment for leased acres		-\$15,322.23
Lease payments to others		-\$55,113.38	Other costs (dep., int., taxes, etc.)		\$79,819.00
Government Payments		\$13,286.00	<b>Annual Total:</b>		<b>\$351,850.97</b>
<b>Annual Total:</b>		<b>\$376,390.88</b>			

Expected Annual Net Farm Return: \$24,539.91



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 Expected Two-Year Net Farm Return: \$49,079.81

NEXT >>

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# RightRisk™

Year 1	Decision
Period 1	Buy Barley Insurance Buy Sugar Beet Insurance
Period 2	Forward Price Corn Beet Replant Option
Period 3	Sell (-) Hay Irrigation Water Allocation
Period 4	Sell or Store Barley Sell (-) Hay



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## Big Horn Basin Farms

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**NEXT** →

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# Right Risk: The Chance to Practice Different Strategies

- *Ag Survivor* is designed to be a hands-on tool for producers to use and explore potential results of risk management strategies.
- *Ag Survivor* can help you learn about your own risk management style.
- We hope the knowledge gained from using *Ag Survivor* can help you think about potential risk management strategies for your operation.
- *Ag Survivor* isn't a decision-aid that tells you how much a particular strategy will return you on your specific operation.

**RightRisk**

• Investigate other risk management information resources through the RightRisk links library...

- **Western Risk Management Library**  


The Western Risk Management Library is host to over 677 articles, fact sheets, and presentations on managing risk in western agricultural operations. Explore the five main sources of risk: production, market, financial, legal, and human resource risk.
- **Risk and Resilience in Agriculture**  


The *Risk and Resilience in Agriculture* materials are designed with the purpose of helping agricultural producers develop individual and family strategies to best deal with today's agricultural business environment.
- **Managing for Today's Cattle Market and Beyond**  


*Managing for Today's Cattle Market and Beyond* is a well-planned collection of 36 outstanding papers, produced by 29 authors from 16 states. The project was conceived by the Western Extension Marketing Committee for extension and classroom audiences.
- **National Ag Risk Education Library**  


The Library contains three major sections, the main Ag Risk Library section, the Specialty Crop Library section, and the FINBIN financial database.

RightRisk is partially funded by:

USDA RMA

...Plus more available at... [WWW.RightRisk.org](http://WWW.RightRisk.org)



## Scenarios . . . .

- King Family Ranch
- Wheatfields
- Lazy U Ranch
- EWS Farms
- Bar BQ Ranch
- Public Lands Ranch
- Oasis Ranch
- High Plains Ranch
- Big Horn Basin Farms
- Mountain View Farms
- Chesapeake Maryland Farm



# QUESTIONS?

