Surviving in Agriculture



The USDA's Risk Management Agency and the University of California Cooperative Extension in San Diego County invite you to join us for Surviving in Agriculture a risk management workshop that will help your farm thrive in today's challenging environment. Workshop presentations and activities are designed to help you and your family or business partners gain a better understanding of how to manage risk in your farm operation.



Tuesday, June 26th 2012 9:00 a.m. - 12:00 noon

San Diego County Farm Bureau 1670 East Valley Parkway, Escondido

Program #1

Welcome: Ramiro Lobo, Farm Advisor, University of California

Challenges and opportunities for Agriculture in San Diego County:

A comprehensive overview on water, land, labor, pests, economics, and more Ramiro Lobo, Small Farms & Agricultural Economics Farm Advisor, University of California

g Risk-5: Learn more about tools for managing risk and thriving in today's agriculture

Dr. Jay Parsons, Agricultural Economist, Colorado State University

Orchard Crops: risks and challenges in orchard crop production

Dr. Gary Bender, Citrus, Avocados and Subtropical Crop Advisor, University of California

trategic Risk Management: calculate your tolerance for risk John Hewlett, Ranch/Farm Management Specialist, University of Wyoming

Survivor - Risk Decisions on Farms (a risk simulation)

John Hewlett and Dr. Jay Parsons

Program #2 Tuesday, June 26th 2012 - 1:00 to 3:00 p.m.

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

Registration/Fee: \$20 per farm/ranch couple if paid online or postmarked by <u>Friday - June 22</u>; and \$25 thereafter or at the door. The registration fee covers lunch and instructional materials.

Register online at: http://ucanr.org/riskmgt-2012 or contact Barbara Henderson for registration details.

Local Contact: For more information or to request special accommodations you may need, please contact Ramiro Lobo or Barbara Henderson by phone at 760.752.4724 or by email at relobo@ucdavis.edu or bghenderson@ucdavis.edu.







RIGHTRISK.





Ag Risk 5

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

> **Jay Parsons John Hewlett**

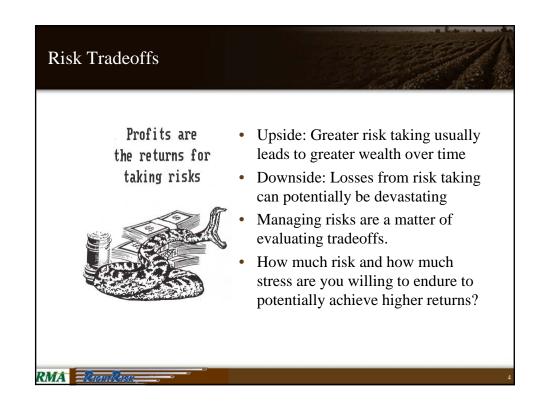




What is RISK?

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

• RISICARE -Italian word -"TO DARE"



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

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

Marketing and Price Risk

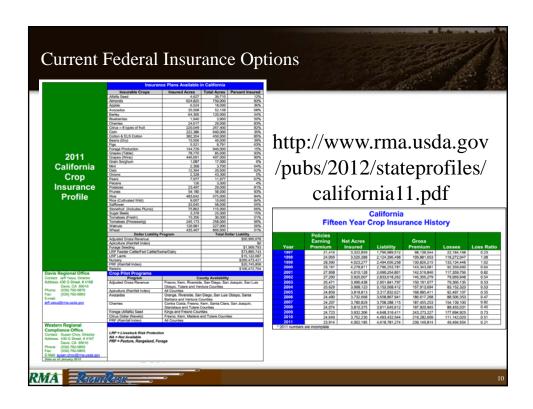
What are Your Management Controls?

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

RMA Rousesse



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



2011 California
Crop
Insurance
Profile

Insurable Crops	Insured Acres	Total Acres	Percent Insured	
Alfalfa Seed	4,627	39,710	12%	
Almonds	624,825	750,000	83%	
Apples	6,524	18,000	36%	
Avocados	35,508	52,158	68%	
Barley	64,300	120,000	54%	
Blueberries	1,940	3,900	50%	
Cherries	24,017	29,000	83%	
Citrus – 8 types of fruit	220,049	267,400	82%	
Corn	222,386	640,000	35%	
Cotton & ELS Cotton	382,354	450,000	85%	
Beans (Dry)	15,506	40,000	39%	
Figs	5,521	8,791	63%	
Forage Production	144,729	940,000	15%	
Grapes (Table)	78,770	85,000	93%	
Grapes (Wine)	446,691	497,000	90%	
Grain Sorghum	1,087	17,000	6%	
Mint	2,368	3,700	64%	
Oats	12,394	20,000	62%	
Onions	2,328	43,300	5%	
Pears	7,977	11,977	67%	
Pecans	126	3,300	4%	
Potatoes	23,497	29,000	81%	
Prunes	54,180	58,000	93%	
Rice	483,642	575,000	84%	
Rice (Cultivated Wild)	9,007	10,660	84%	
Safflower	32,045	58,000	55%	
Stonefruit (Includes Plums)	75,862	115,000	66%	
Sugar Beets	3,378	25,000	15%	
Tomatoes (Fresh)	15,356	30,000	51%	
Tomatoes (Processing)	245,173	258,000	95%	
Walnuts	126,981	227,000	56%	
Wheat	435,467	860,000	51%	
Dollar Liability P	rogram	Total Dollar Liability		
Adjusted Gross Revenue		\$50,995,078		
Apiculture (Rainfall Index)			\$0	
Forage Seeding	\$1,909,793			
LRP Feeder Cattle/Fed Cattle/Sw	\$73,895,743			
LRP Lamb	\$15,122,687			
Nursery	\$266,473,421			
PRF (Rainfall Index)	\$20,745,858 \$106,473,704			
Raisins Crop Pilot Programs		\$106,472,704		

Insurance Plans Available in California

Davis Regional Office

Contact: Jeff Yasui, Director Address: 430 G Street, # 4168

Davis, CA 95616 Phone: (530) 792-5870 Fax: (530) 792-5893

E-mail:

jeff.yasui@rma.usda.gov

Raisilis		\$100,472,704	
Crop Pilot Programs			
Program	Co	unty Availability	
Adjusted Gross Revenue	enue Fresno, Kern, Riverside, San Diego, San Joaquin, San Luis Obispo, Tulare and Ventura Counties		
Apiculture (Rainfall Index)	All Counties		
Avocados	Orange, Riverside, San Barbara and Ventura C	Diego, San Luis Obispo, Santa ounties	
Cherries	Contra Costa, Fresno, I Stanislaus and Tulare (Kern, Santa Clara, San Joaquin, Counties	
Forage (Alfalfa) Seed	Kings and Fresno Cour	nties	
Citrus Dollar (Navels)	Fresno, Kern, Madera a	and Tulare Counties	
PRF (Rainfall Index)	All Counties		

Western Regional Compliance Office

Contact: Susan Choy, Director Address: 430 G Street, # 4167

Davis, CA 95616 Phone: (530) 792-5850

Fax: (530) 792-5865 E-Mail: susan.choy@rma.usda.gov

Data as of January 2012

LRP = Livestock Risk Protection NA = Not Available PRF = Pasture, Rangeland, Forage



California Fifteen Year Crop Insurance History

	Policies Earning	Net Acres		Gross		
Year	Premium	Insured	Liability	Premium	Losses	Loss Ratio
1997	21,416	3,322,859	1,796,989,512	98,138,544	22,184,168	0.23
1998	24,069	3,526,388	2,124,396,498	109,881,653	118,272,047	1.08
1999	28,590	4,023,277	2,494,656,258	130,826,215	133,134,448	1.02
2000	29,191	4,278,811	2,796,253,781	143,343,081	92,359,660	0.64
2001	27,958	4,010,128	2,690,254,801	142,519,840	117,359,756	0.82
2002	27,200	3,920,007	2,833,618,262	146,356,279	79,069,948	0.54
2003	26,471	3,990,438	2,951,841,797	150,191,677	79,366,135	0.53
2004	25,629	3,908,123	3,153,568,412	157,913,694	83,152,323	0.53
2005	24,859	3,818,813	3,317,832,621	168,995,411	92,497,107	0.55
2006	24,490	3,732,668	3,658,867,941	186,617,268	88,506,353	0.47
2007	24,207	3,780,829	3,708,288,115	187,455,253	154,139,100	0.82
2008	24,074	3,810,375	3,911,645,612	197,920,945	89,455,031	0.45
2009	24,723	3,932,306	4,648,316,411	243,273,227	177,694,925	0.73
2010	24,649	3,752,230	4,493,432,544	219,282,609	111,142,020	0.51
2011	23,914	4,002,185	4,618,781,274	239,149,814	49,494,554	0.21

^{* 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 Current Reports" 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.



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





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



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





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

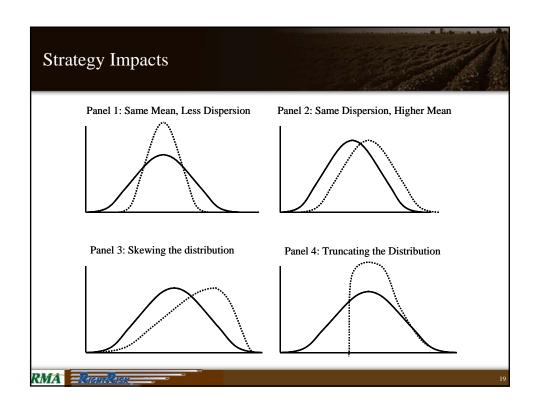


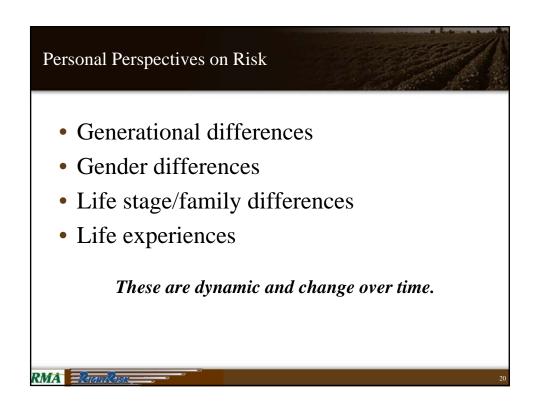


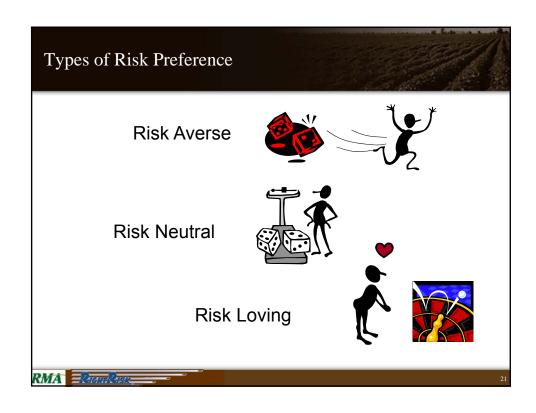
Strategies for Managing Risk

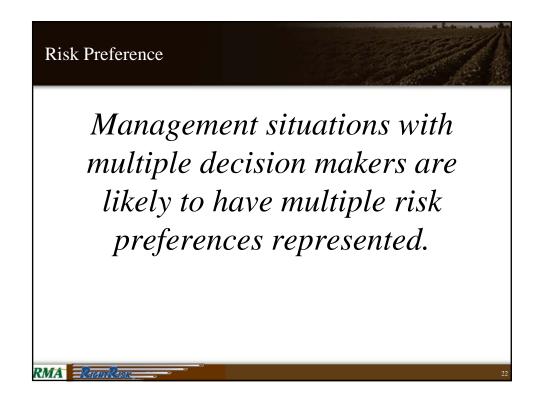
- 1. Avoid it
- 2. Reduce it
 - a) Reduce the probability it will happen
 - b) Reduce the impact if it does happen
- 3. Transfer it outside the business
 - a) Insurance
 - b) Contracting
- 4. Build your internal capacity to bear
 - a) Increase reserves
 - b) Maintain flexibility
- 5. Accept it

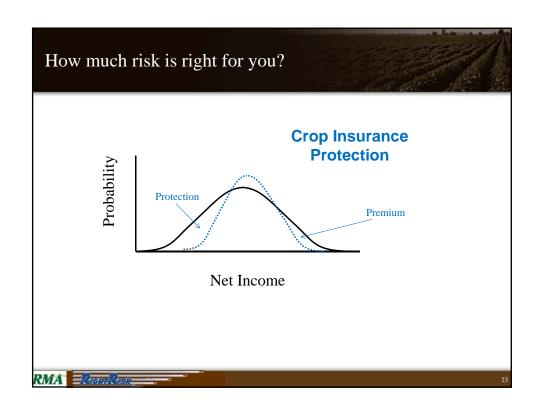


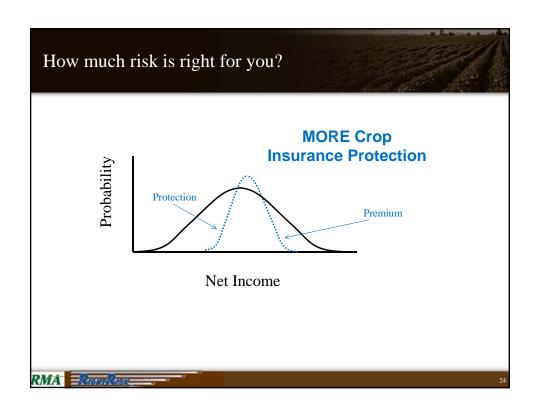


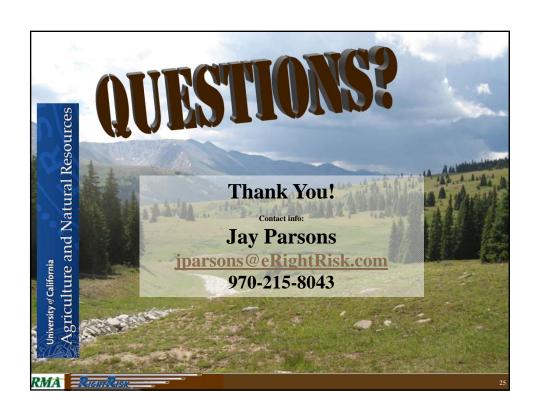


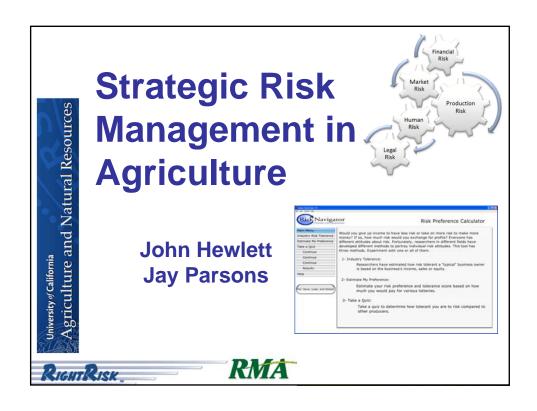


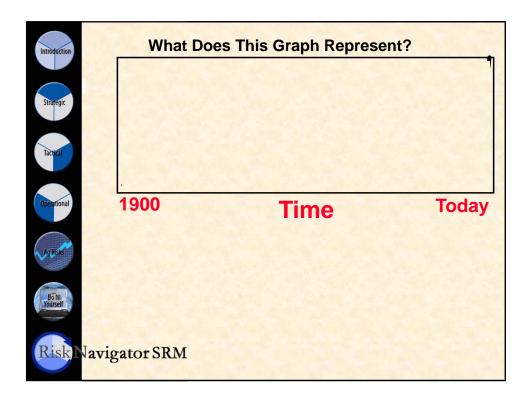




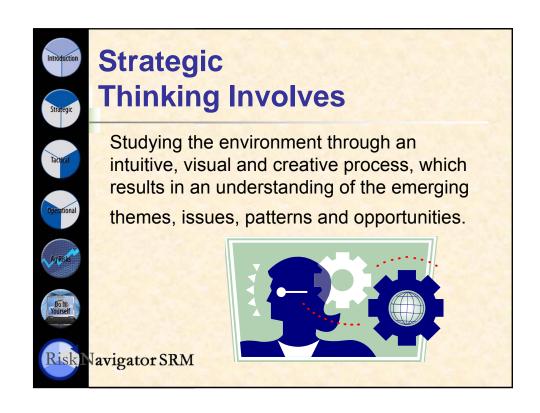


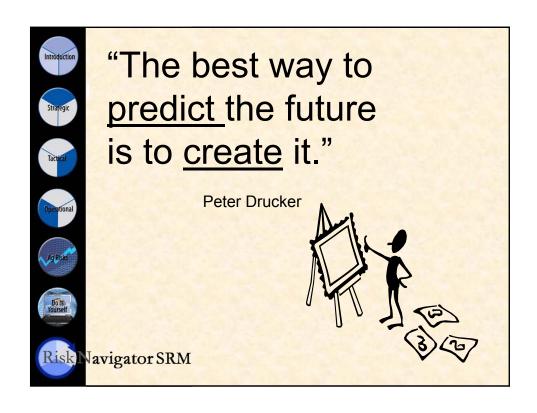


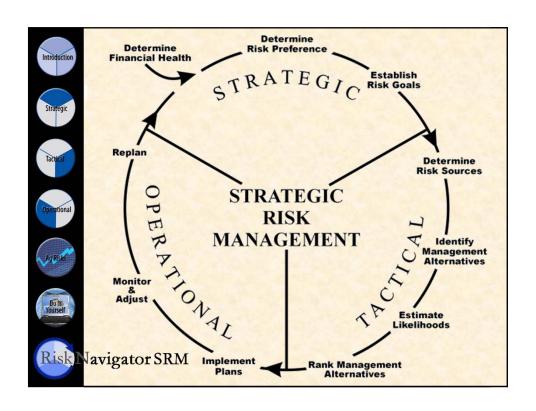




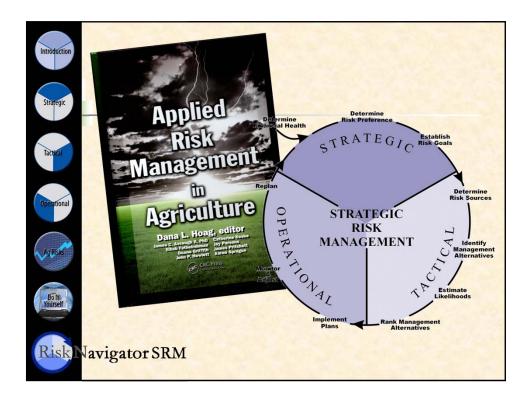




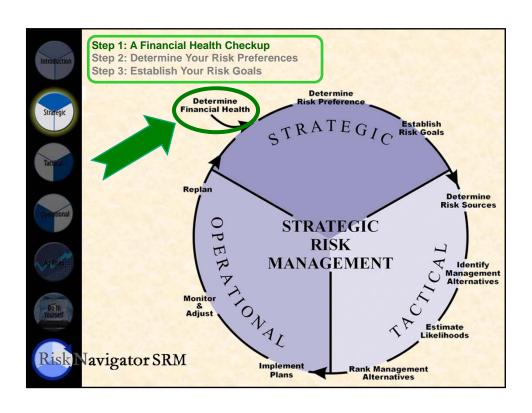


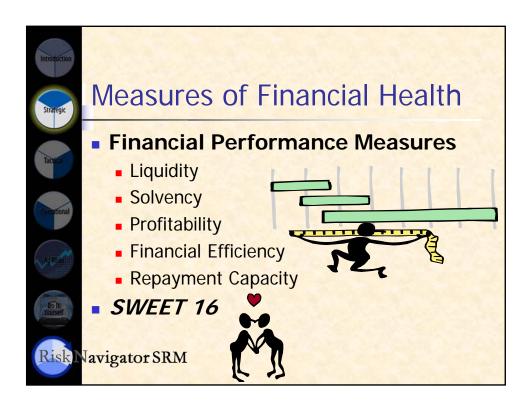


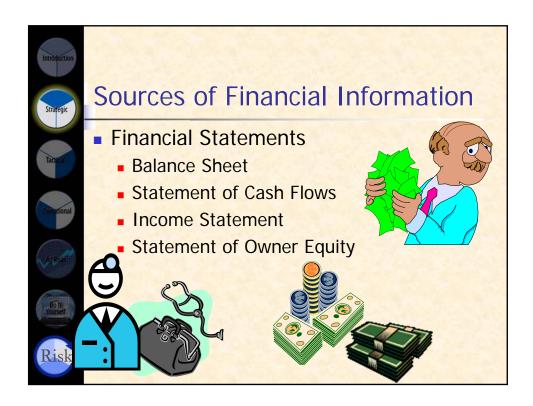




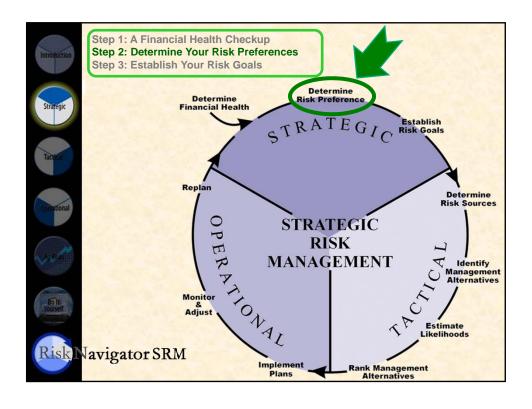


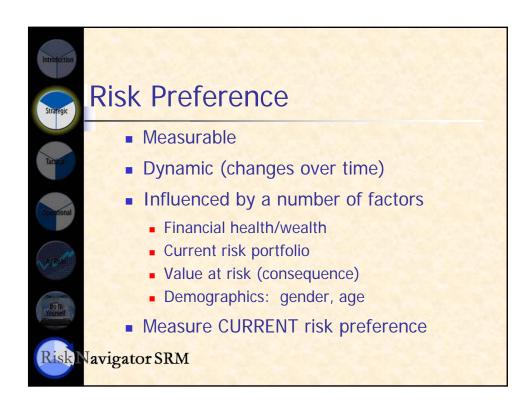




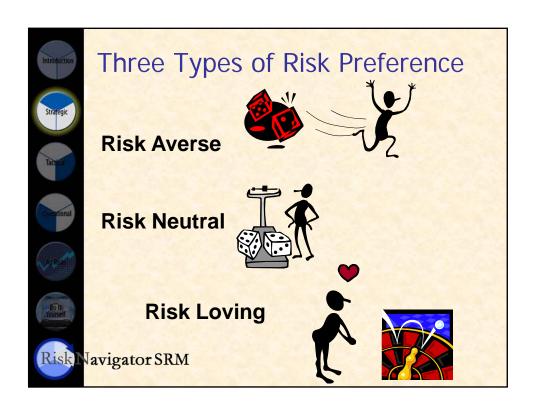


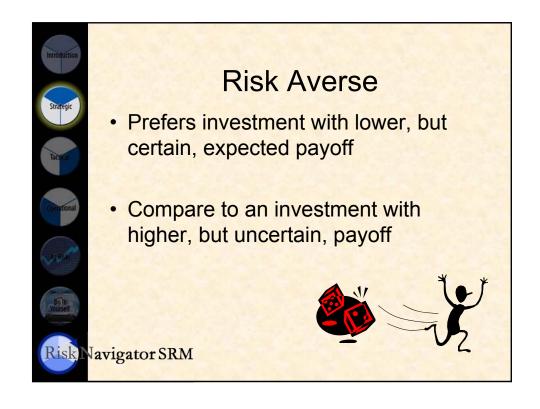






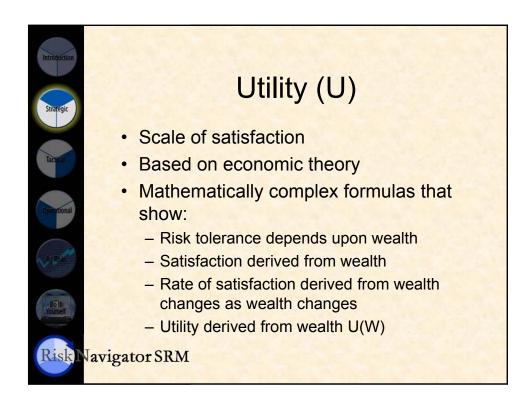


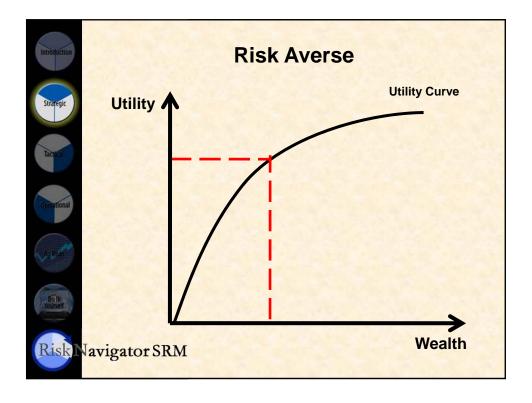


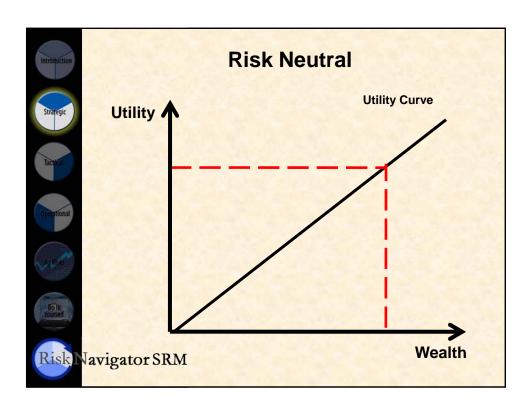


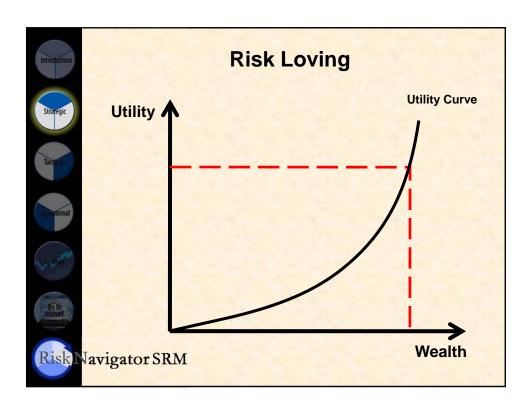


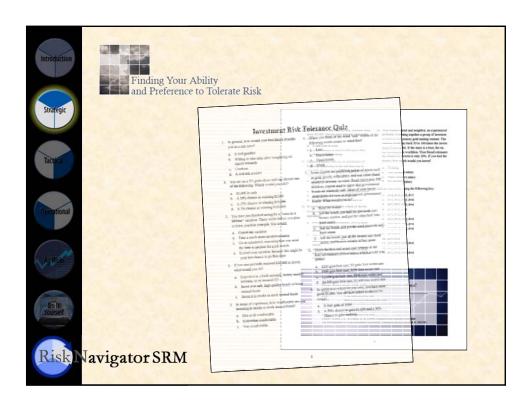


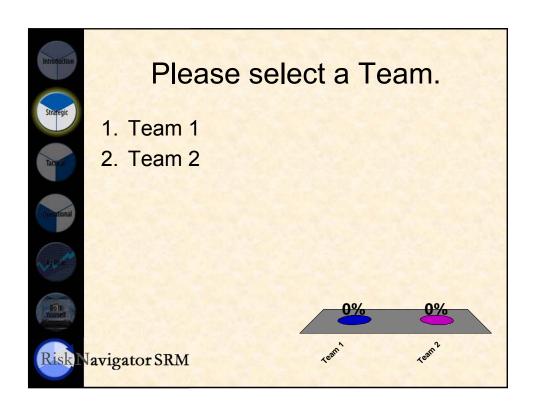


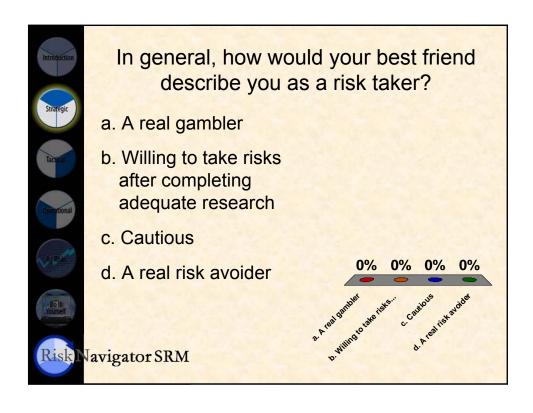


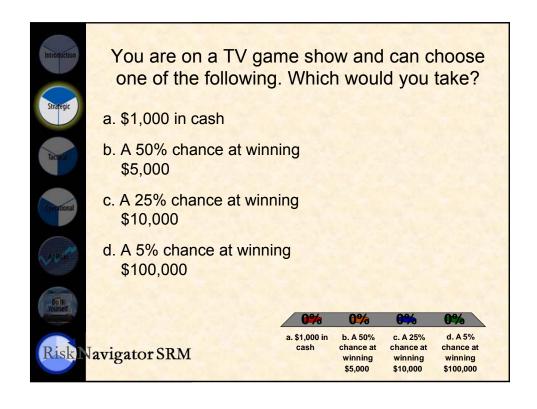


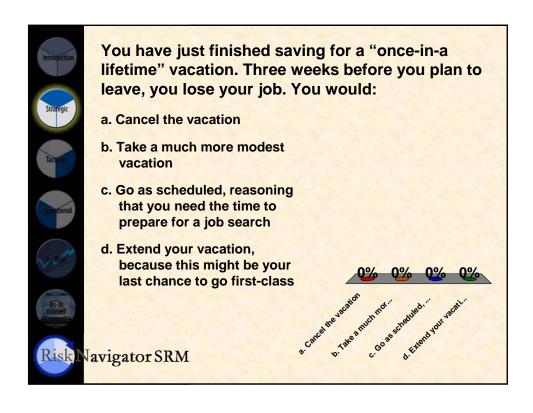


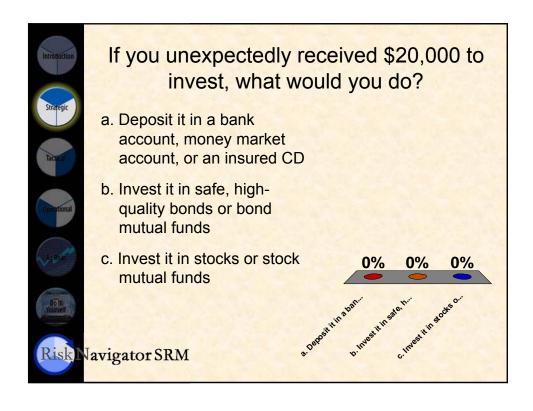


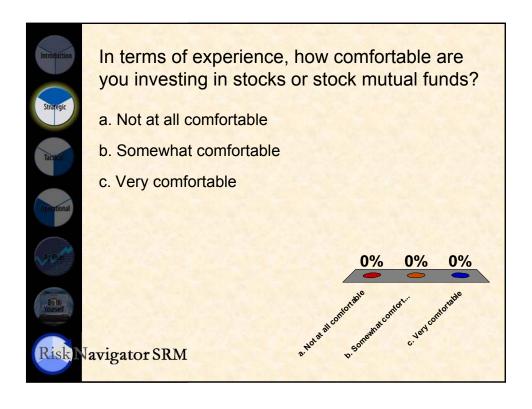


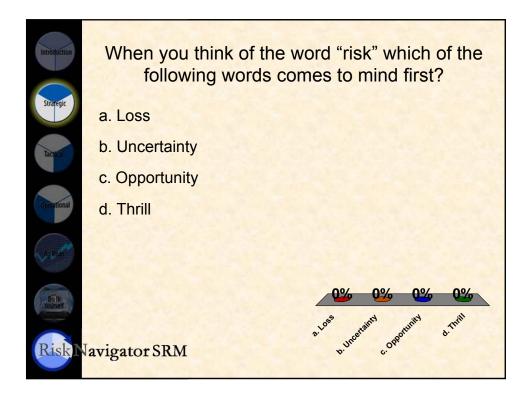


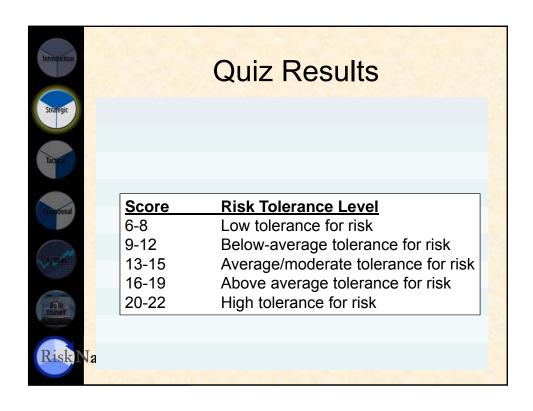


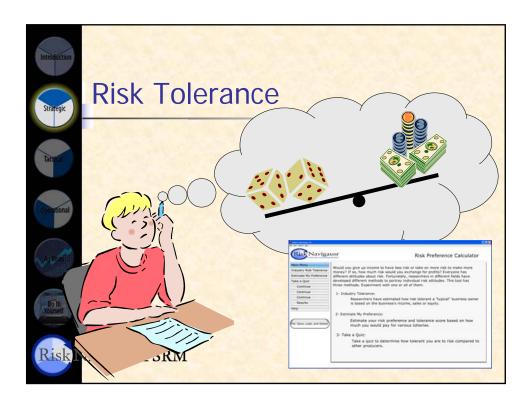


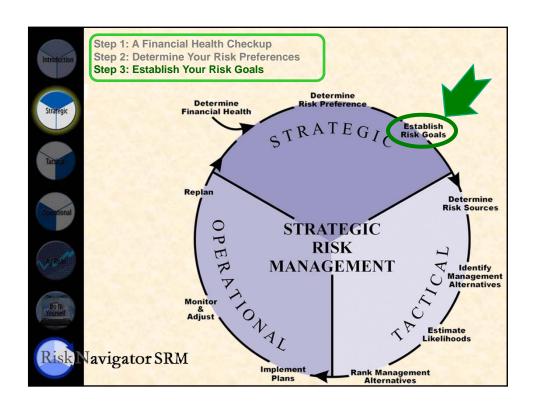








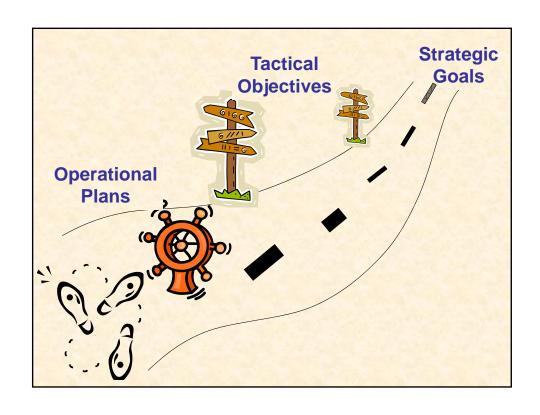


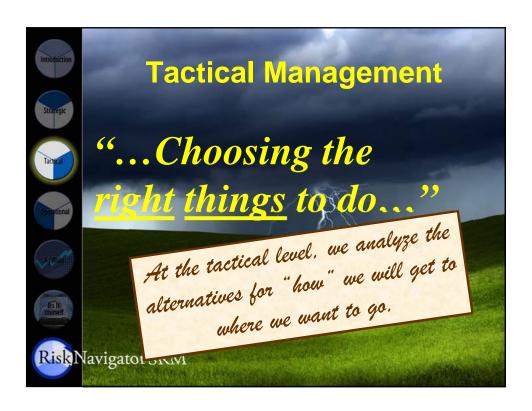


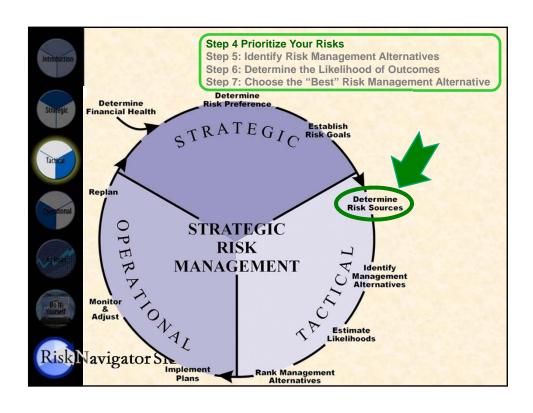


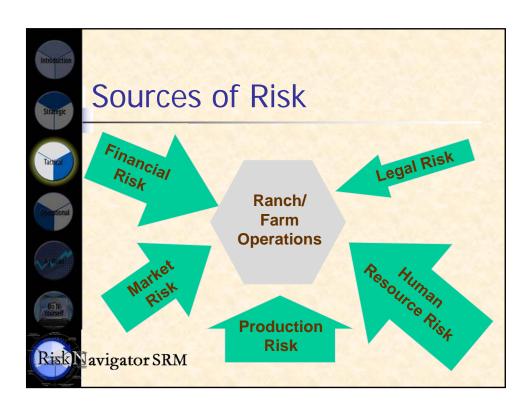


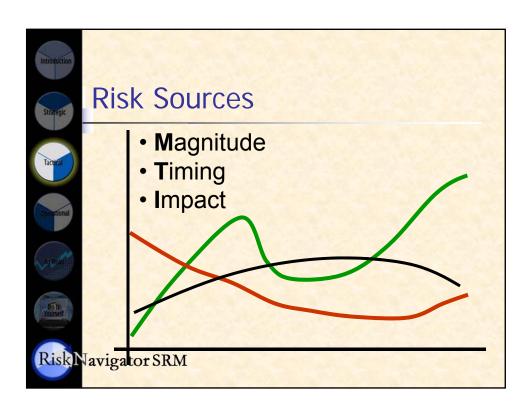


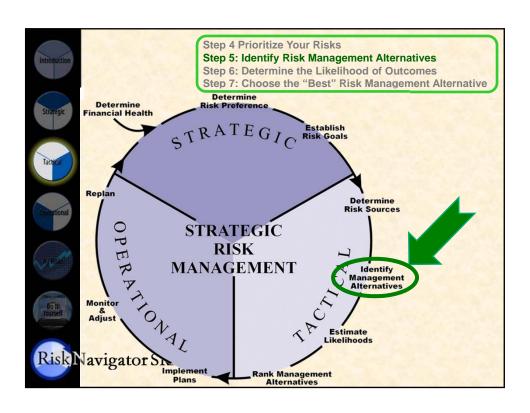


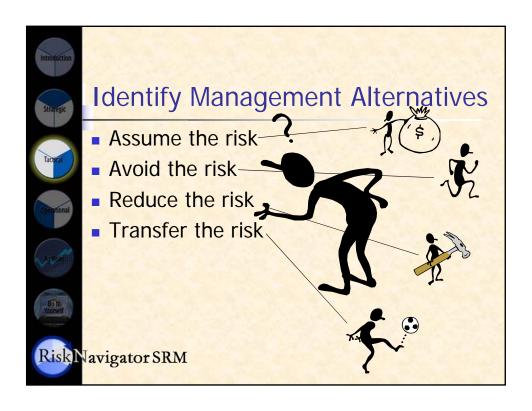


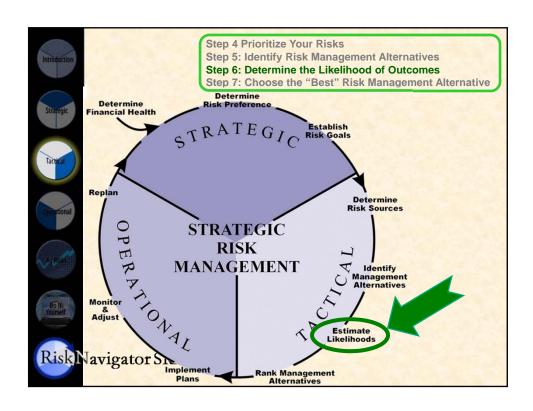


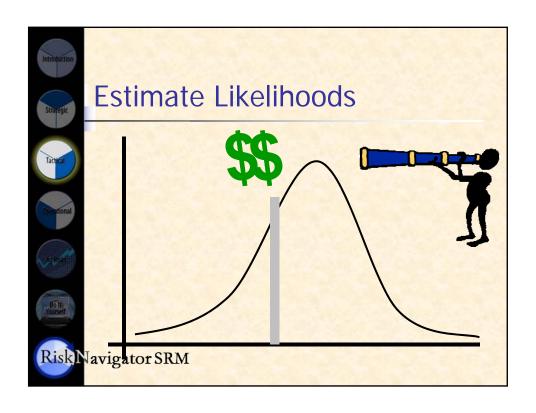


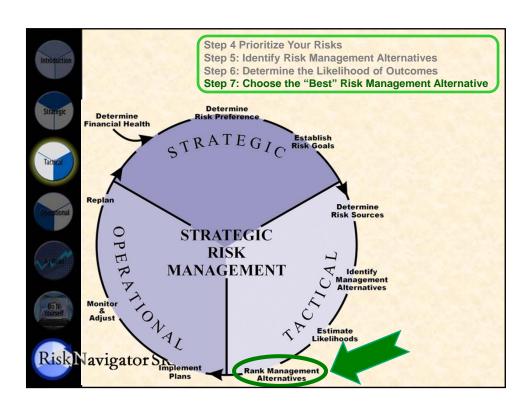


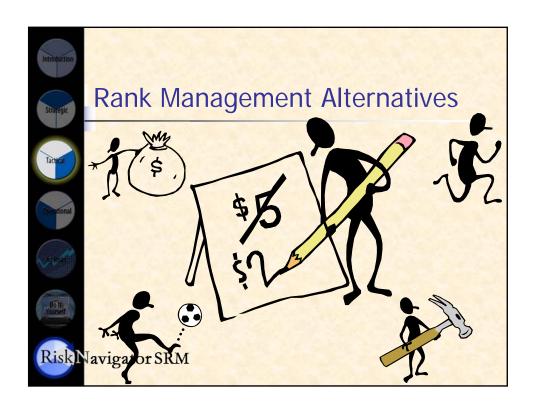


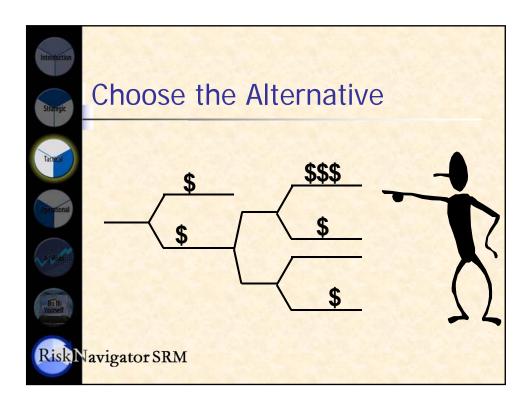




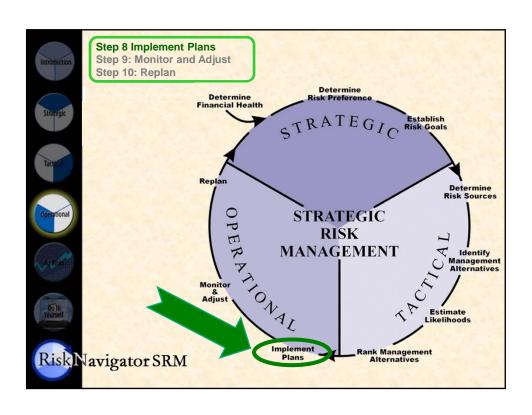


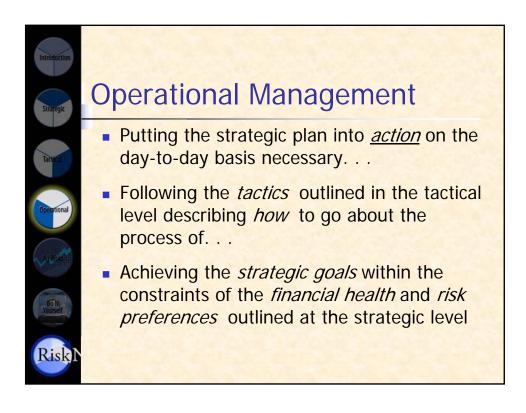


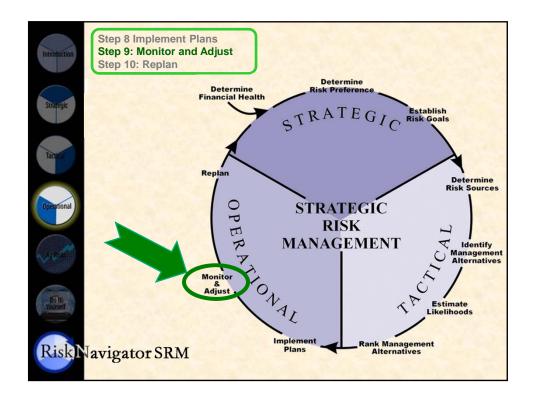


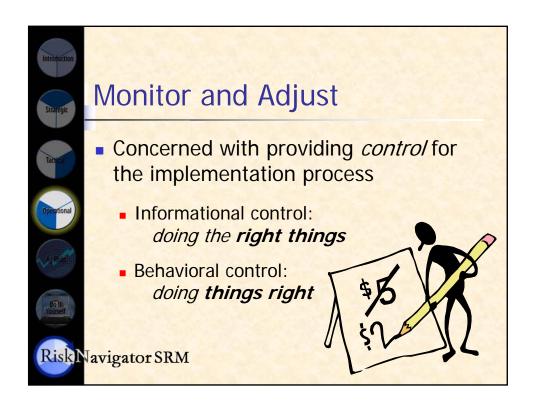


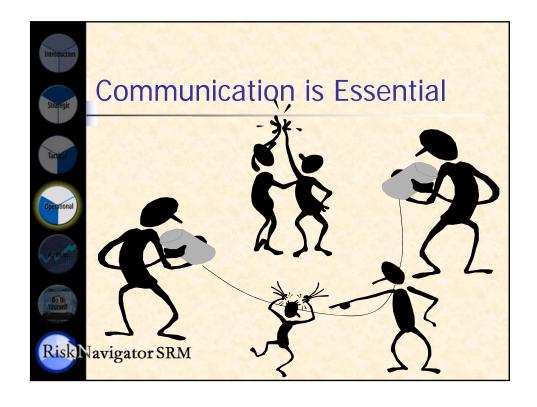


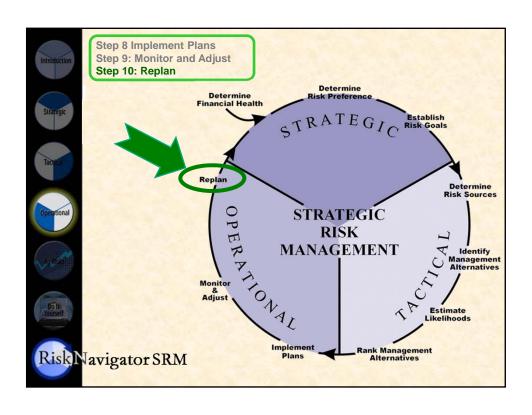










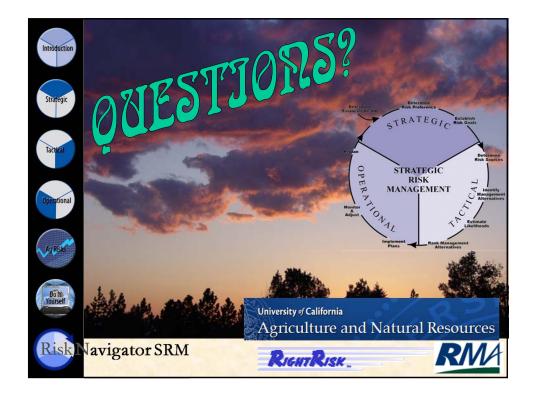


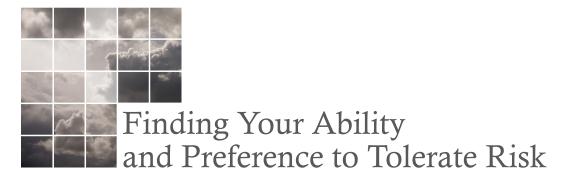












If you had a choice, would you take on more risk if it meant more profit or would you prefer to accept a lower profit if it meant less risk of a loss? How much profit are you willing to forgo to take on additional risk? The answers to these questions vary greatly between individuals. Some people avoid risks, while others crave it. In this step of the SRMP, you will gain a better understanding of your risk preferences.

Risk tolerance is defined as the amount of risk you are willing to undertake to achieve an investment goal. You can have three different attitudes towards risk:

- Risk averse individuals highly dislike or fear risk.
 They would prefer a guaranteed payoff from their investment at the expense of receiving a lower rate of return.
- Risk neutral individuals care about the expected payoff of the investment and not the risk needed to achieve the operation's goals. Risk neutral investors neither actively seek risks nor pay to avoid them.
- Risk loving individuals actively seek risky investments that may potentially present high payoffs.

These risk concepts can be illustrated by a mathematical example known as an expected value.

Suppose you have just harvested your wheat. You have been offered \$20,000 for the entire crop by your local elevator. This is income you can receive with certainty. You also have the option to store the wheat yourself and wait to see whether prices rise. You have calculated that if you store your wheat you have a 75 percent chance of the price rising in the spring, which will present to you a payoff of \$26,000. There is also a 25 percent chance the price will fall, providing you with a revenue of only \$10,000. The "expected value" of the self storage strategy is:

(0.75*\$26,000) + (0.25*\$10,000) = \$22,000.

A risk averse individual would prefer to take the guaranteed \$20,000. The self-storage option offers a risk premium of \$2,000 to compensate for the 25 percent chance of the price falling. The question for each producer lies in how comfortable he or she is with the \$2,000 risk premium. Would you take the risk for only \$500 more? How about \$4,000 more? A risk averse producer would need more risk premium than a more neutral producer.

Next, you'll find a brief investment risk tolerance quiz to give you insight as to whether you have tendencies toward risk averse, risk neutral, or risk loving behaviors. Understanding your risk preferences will prove to be useful as we guide you through the rest of the SRMP

STEP

Investment Risk Tolerance Quiz

- 1. In general, how would your best friend describe you as a risk taker?
 - a. A real gambler
 - b. Willing to take risks after completing adequate research
 - c. Cautious
 - d. A real risk avoider
- 2. You are on a TV game show and can choose one of the following. Which would you take?
 - a. \$1,000 in cash
 - b. A 50% chance at winning \$5,000
 - c. A 25% chance at winning \$10,000
 - d. A 5% chance at winning \$100,000
- 3. You have just finished saving for a "once-in-a lifetime" vacation. Three weeks before you plan to leave, you lose your job. You would:
 - a. Cancel the vacation
 - b. Take a much more modest vacation
 - c. Go as scheduled, reasoning that you need the time to prepare for a job search
 - d. Extend your vacation, because this might be your last chance to go first-class
- 4. If you unexpectedly received \$20,000 to invest, what would you do?
 - a. Deposit it in a bank account, money market account, or an insured CD
 - b. Invest it in safe, high-quality bonds or bond mutual funds
 - c. Invest it in stocks or stock mutual funds
- 5. In terms of experience, how comfortable are you investing in stocks or stock mutual funds?
 - a. Not at all comfortable
 - b. Somewhat comfortable
 - c. Very comfortable

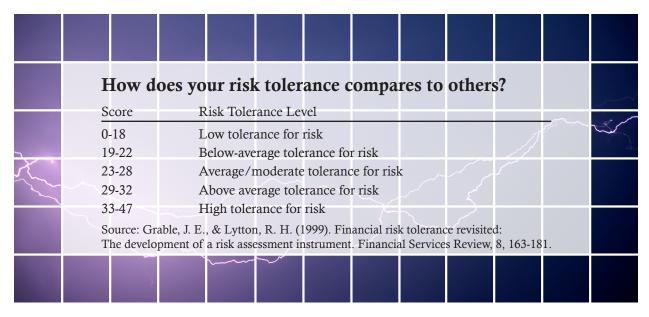
- 6. When you think of the word "risk" which of the following words comes to mind first?
 - a. Loss
 - b. Uncertainty
 - c. Opportunity
 - d. Thrill
- 7. Some experts are predicting prices of assets such as gold, jewels, collectibles, and real estate (hard assets) to increase in value. Bond prices may fall; however, experts tend to agree that government bonds are relatively safe. Most of your investment assets are now in high-interest government bonds. What would you do?
 - a. Hold the bonds
 - Sell the bonds, put half the proceeds into money market, and put the other half into hard assets
 - c. Sell the bonds and put the total proceeds into hard assets
 - d. Sell the bonds, put all the money into hard assets, and borrow money to buy more
- 8. Given the best and worst case returns of the four investment choices below, which would you prefer?
 - a. \$200 gain best case; \$0 gain/loss worst case
 - b. \$800 gain best case; \$200 loss worst case
 - c. \$2,600 gain best case; \$800 loss worst case
 - d. \$4,800 gain best case; \$2,400 loss worst case
- 9. In addition to whatever you own, you have been given \$1,000. You are now asked to choose between:
 - a. A sure gain of \$500
 - b. A 50% chance to gain \$1,000 and a 50% chance to gain nothing

- 10. In addition to whatever you own, you have been given \$2,000. You are now asked to choose between:
 - a. A sure loss of \$500
 - b. A 50% chance to lose \$1,000 and a 50% chance to lose nothing
- 11. Suppose a relative left you an inheritance of \$100,000, stipulating in the will that you invest ALL the money in ONE of the following choices. Which one would you select?
 - a. A savings account or money market mutual fund
 - b. A mutual fund that owns stocks and bonds
 - c. A portfolio of 15 common stocks
 - d. Commodities like gold, silver, and oil
- 12. If you had to invest \$20,000, which of the following investment choices would you find most appealing?
 - a. 60% in low-risk investments, 30% in medium-risk investments, 10% in high-risk investments
 - b. 30% in low-risk investments, 40% in medium-risk investments, 30% in high-risk investments
 - c. 10% in low-risk investments, 40% in medium-risk investments, 50% in high-risk investments

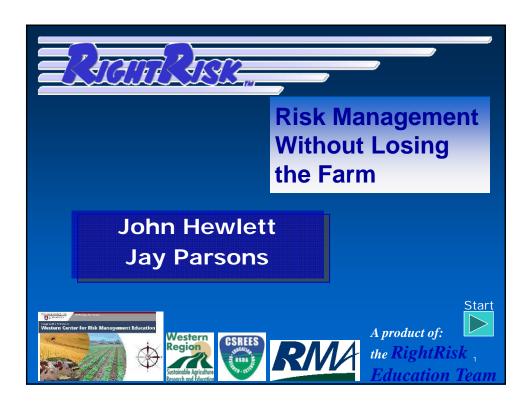
- 13. Your trusted friend and neighbor, an experienced geologist, is putting together a group of investors to fund an exploratory gold mining venture. The venture could pay back 50 to 100 times the investment if successful. If the mine is a bust, the entire investment is worthless. Your friend estimates the chance of success is only 20%. If you had the money, how much would you invest?
 - a. Nothing
 - b. One month's salary
 - c. Three month's salary
 - d. Six month's salary

Add up your score, using the following key:

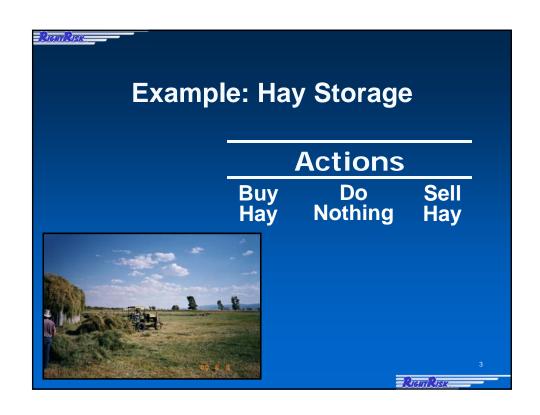
- 1. a=4; b=3; c=2; d=1
- 2. a=1; b=2; c=3; d=4
- 3. a=1; b=2; c=3; d=4
- 4. a=1; b=2; c=3
- 5. a=1; b=2; c=3
- 6. a=1; b=2; c=3; d=4
- 7. a=1; b=2; c=3; d=4
- 8. a=1; b=2; c=3; d=4
- 9. a=1; b=3
- 10. a=1; b=3
- 11. a=1; b=2; c=3; d=4
- 12. a=1; b=2; c=3
- 13. a=1; b=2; c=3; d=4

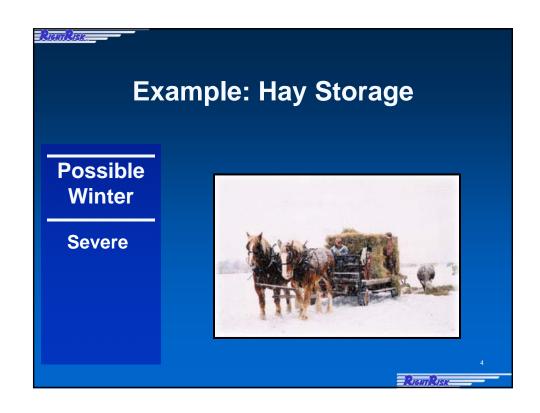


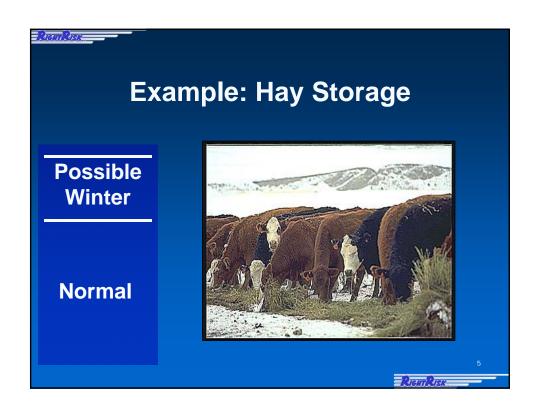


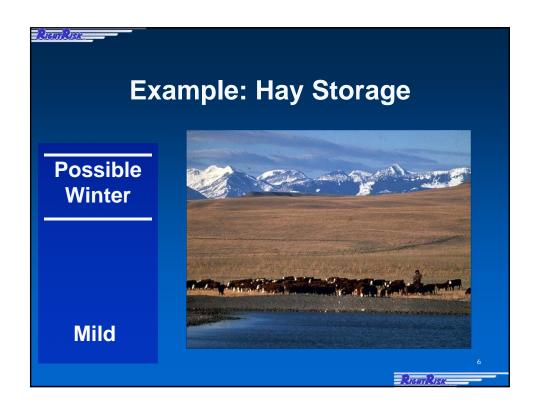


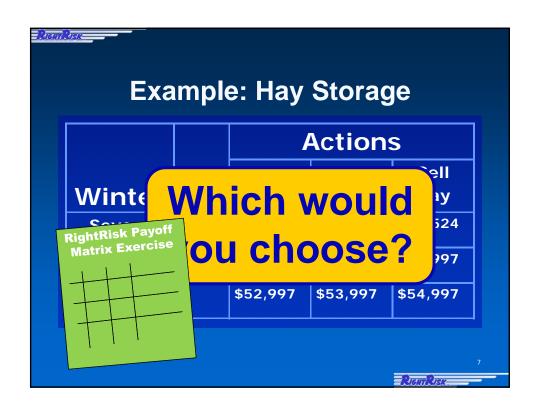












Example: Hay Storage					
		Actions			
Winter	Prob.	Buy Hay	None	Sell Hay	
Severe	1/6	\$36,159	\$34,365	\$31,524	
Normal	4/6	\$50,997	\$51,497	\$51,997	
Mild	1/6	\$52,997	\$53,997	\$54,997	

RightRisk Payoff Matrix Exercise

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

Which strategy would you choose, buy hay, no action, or sell hay?

Explain Why.

Basic Risk Management Decision Rules

Maximax

Maximax is for risk lovers; those people that like the thrill of getting a high payoff with great risk. Under this criterion, a person looks through each action and chooses the one with the highest possible payoff. That is, they are choosing the best of the best.

Maximin

A more conservative approach might be to look at a worse-case scenario. A risk averse person might want to choose the best of the worst returns. This is called the "maximin" strategy because we would be maximizing the minimum possible outcome. That is, we are choosing the best of the worst thing that could happen.

Most Likely

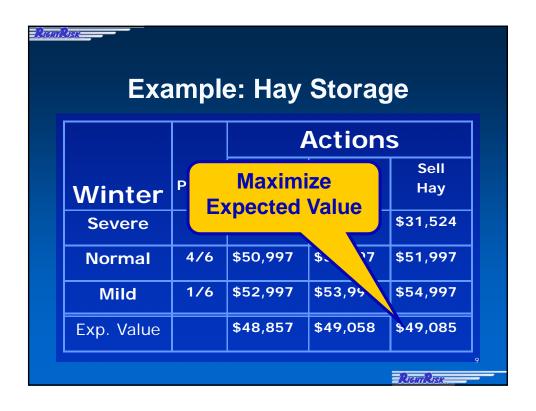
Sometimes you might have some information about what is most likely to happen; then you would ignore normal probabilities. For example, long-range weather forecasts could help pin down what is most likely to happen. You might know that a wet year is more likely in an El Nino year.

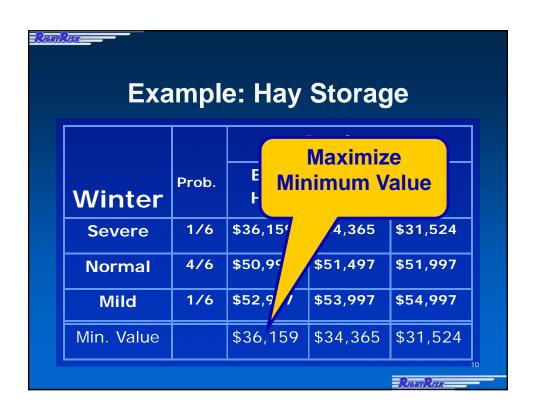
Maximize Expected Value

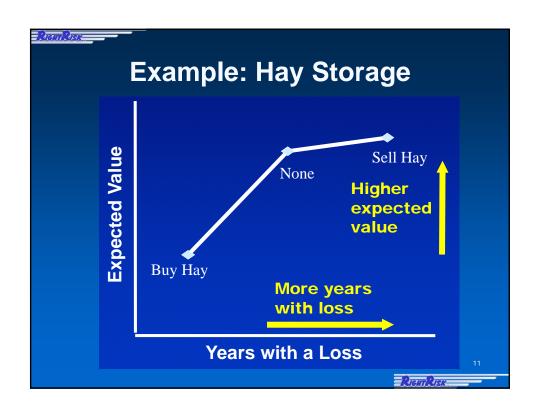
None of the strategies so far has taken into account the probabilities associated with the scenario outcomes. The expected value is the weighted sum of the outcomes using the probabilities of occurrence as the weights. The expected value is what you would average over a long period of time. A risk-neutral person would base their choice on the expected value of the outcomes. This person would not be concerned with the variability in the outcomes but rather the expected return over the long haul.

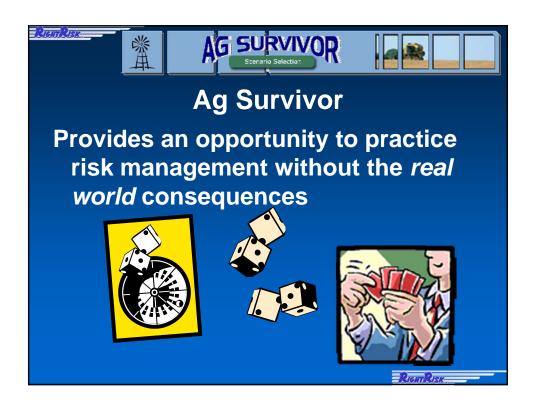
Variability

Variability in the outcomes can be measured using the standard deviation. The standard deviation of a set of outcomes is the square root of the variance. A person will realize an outcome within one standard deviation, plus or minus, from the mean two-thirds of the time. They will realize a return within two standard deviations about 90 percent of the time.

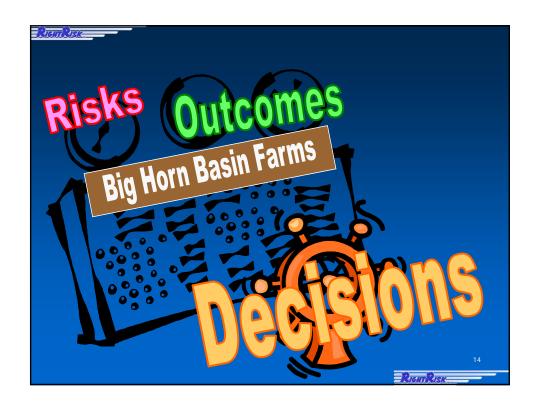


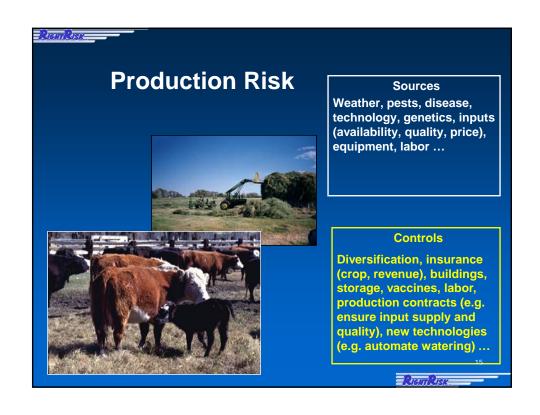






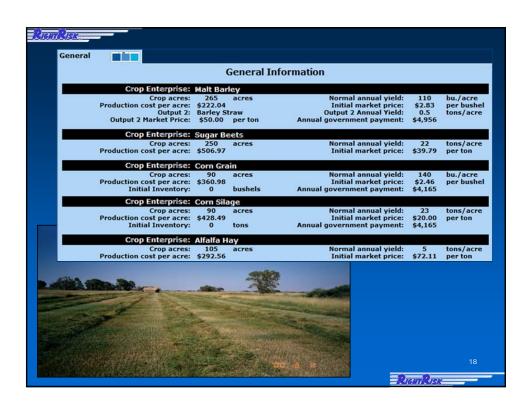




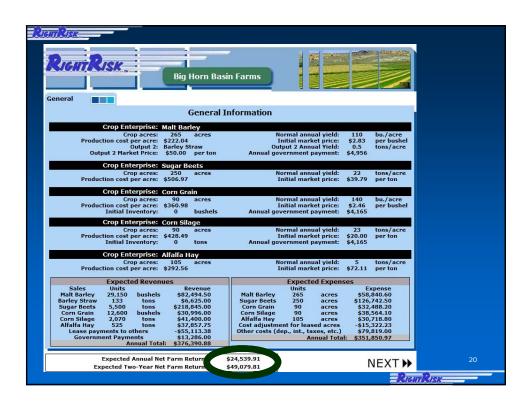
















Right Risk: The Chance to Practice Different Strategies

- 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.

Rigin Risk









Armen anagement

Farm Management

http://FarmManagement.org

Management Library Western Risk

http://agecon.uwyo.edu/RiskMgt



Risk Management Agency (RMA)

http://www.rma.usda.gov









Copyright @ 2008, RightRisk-LLC All Rights Reserved

