

Managing Risk in Beef Cattle Operations

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Risk: What is it?

- Is it a disease outbreak? (BRD, Trich., etc.)
- Is it when the neighbors bull visits?
- Is it when a land lease is lost?
- Is it the loss of an employee?
- Is it when the lender stops lending?
- Is it when the cows get out and on the road?
- Is it when input prices double?
- Is it adverse weather conditions?

What are you willing to risk?



How much risk is enough?



Talking about risk

- Most farmers define risk as “an event which results in a significant loss.”



Talking about risk

- The word risk is derived from the Italian word *risicare*, which means, “to dare.”
 - This implies an element of choice.
 - It also implies there is some potential reward associated with taking the risk or dare.

Talking about risk

- Economic theory suggests there is a tradeoff between risk and reward.
- Rational people that are willing to accept higher levels of risk expect higher levels of return if successful.



Talking about risk

- Two factors to understand when discussing risk.
 - 1) The chance/probability of an adverse event occurring.
 - 2) The potential negative financial impact (magnitude).



Rolling a 14



Heads



The sun will rise



Talking about risk

- Sometimes there are cases where the probability of an event occurring with a negative impact are almost certain, but the financial loss is small if it does happen.
 - Calves contracting worms at some point is almost 100 percent, but the loss usually only ranges from \$15 to \$25 per head.

Talking about risk

- Other times there are cases where the probability of an event occurring with a negative impact is small, but the financial loss could be very large.
 - Severe drought may result in a loss of as much as \$200 per head.

Types of risk

- Production
- Price
- Financial
- Casualty
- Technological
- Policy
- Legal
- Personal/Personnel
- Other



Production risks

- Herd health
- Nutrition
- Forage production
- Supplemental feed
- Labor
- Weather
- Others



Price risks

- Input purchase prices

- Chemical
- Feed
- Fertilizer
- Fuel
- Labor
- Seed
- Stocker calves

- Output selling prices

- Feeder cattle
- Chronics
- Miscellaneous



Casualty risks

- Loss of animals
- Loss of facilities
- Loss of machinery/equipment
- Other losses



Financial risks

- Profit/Loss
- Interest rates
- Length of terms
- Requirements to acquire loans
- Others



Technological risks

- Technology obsolescence (genetics, chemicals, machinery,...)
- Adopting technology that becomes obsolete rapidly (computer programs,...)
- Not adjusting the business model to make full use of adopted technologies



Policy risks

- Farm Bill
- Regulations
- Tax policy
- Trade policy
- Others



Legal risks

- Compliance
- Enforcement
- Defense
- Income taxes
- Estate taxes
- Others



Personal/Personnel risks

- Employee loss due to

- Attitude
- Health
- Life
- Labor/Mgt. decisions
- Changing jobs
- Other factors

- Employer loss due to

- Attitude
- Health
- Divorce
- Labor/Mgt. decisions
- Other factors



Ways to manage risk

- 1) Avoid risk
- 2) Assume risk
- 3) Reduce risk
- 4) Transfer risk



Avoid risk

- Identify a source of risk and take one or more actions to avoid it
 - Do not take “the dare”
 - Market your resources to others
 - Pre-buy inputs to insure availability and price
 - Others



Assume risk

- Identify the risk and take it head on
 - Adverse weather
 - Parasites
 - Death loss
 - Output price
 - Others



Reduce risk

- Identify a risk and take action to reduce it
 - BRD, Black Leg, Lepto-Vibrio (vaccinate to prevent and/or buy from safer sources)
 - Parasites (deworm, fly control, etc.)
 - Other



Transfer risk

- Identify the source of risk and pass it on to someone else
 - Forward contracts
 - Futures contracts
 - Insurance
 - Other



Specific ways to manage cost of production risks

- Develop a plan to manage COP risks
- Perform management practices correctly and in a timely fashion
- Know your unit cost of production (UCOP)
- Know the range of your UCOP
- Know the sensitivity of factors affecting profitability
- Use seasonal price trends
- Use input price protection
- Seek lower cost substitutes
- Buy in bulk
- Utilize custom hire services
- Minimize waste
- Credit Management
- Others

Develop a plan to manage COP

- Identify cost of production risks
- Develop strategies to avoid/assume/reduce/transfer COP risks
- Specify who is responsible to implement risk management strategy
- Record when and what action was taken
- Evaluate the action and why it was successful or unsuccessful

Perform management practices correctly and promptly

- Work stocker calves on arrival to farm
- Monitor health of calves several times a day
- Treat calves when symptoms are noticed
- Keep a log of treatments
- Minimize waste (feed, labor, etc.)

Know unit cost of production

- Calculate UCOP frequently

$$UCOP = \frac{Total\ COP}{Total\ production}$$

- Determine what factors change UCOP
- Estimate an acceptable UCOP range
- Produce based on available resources
- Others

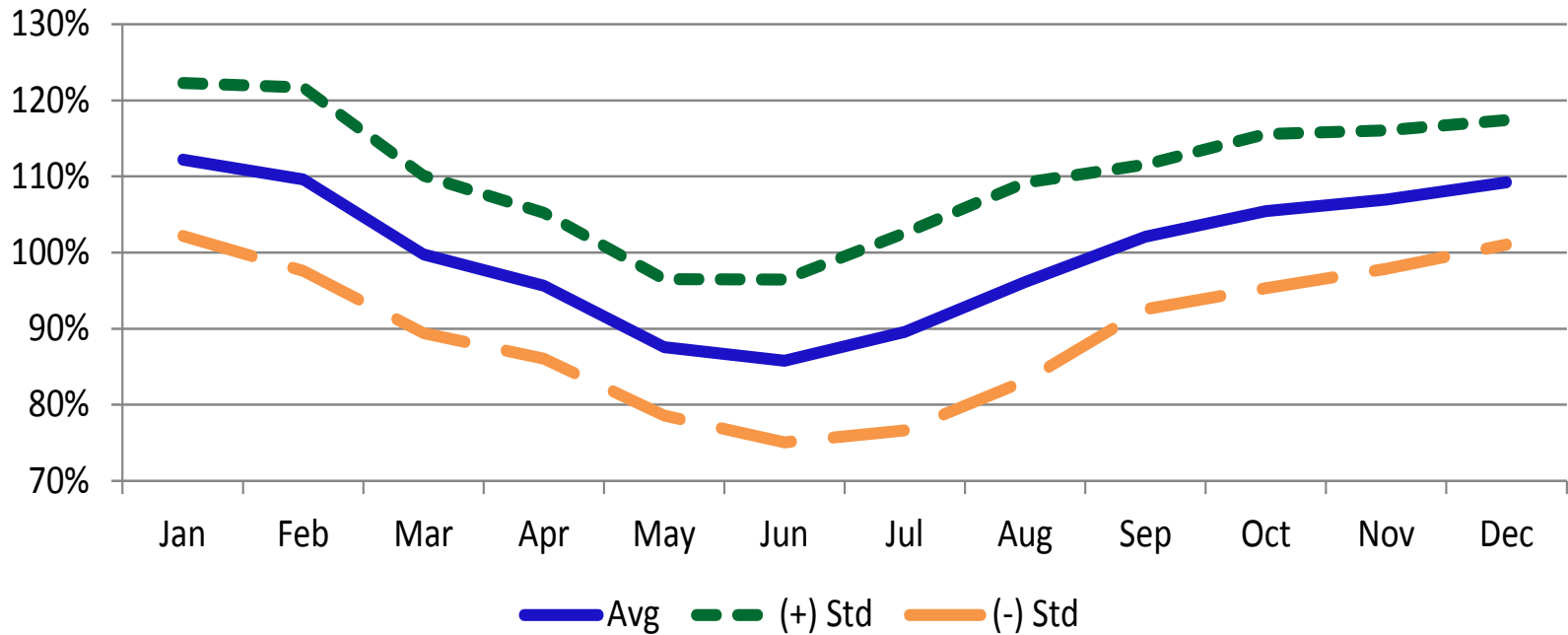
Estimated feeder breakeven price and price objective							
			Stocker	Total			
	Item	Total \$	Portion	Allocated	\$/Head	\$/Cwt.	\$/Acre
1	Feeder Calves	\$360,000	100%	\$360,000	\$720.00	\$102.86	\$1,000.00
2	Trucking	\$4,000	100%	\$4,000	\$8.00	\$1.14	\$11.11
3	Land Rent	\$-	50%	\$-	\$-	\$-	\$-
4	Seed	\$6,500	100%	\$6,500	\$13.00	\$1.86	\$18.06
5	Chemicals	\$1,500	100%	\$1,500	\$3.00	\$0.43	\$4.17
6	Fertilizer	\$12,500	100%	\$12,500	\$25.00	\$3.57	\$34.72
7	Feed	\$12,500	100%	\$12,500	\$25.00	\$3.57	\$34.72
8	Mineral & Salt	\$1,500	50%	\$750	\$1.50	\$0.21	\$2.08
9	Vet. & Med.	\$6,500	100%	\$6,500	\$13.00	\$1.86	\$18.06
10	Fence Maintenance	\$1,000	100%	\$1,000	\$2.00	\$0.29	\$2.78
11	Fuel	\$2,000	100%	\$2,000	\$4.00	\$0.57	\$5.56
12	Supplies	\$1,000	50%	\$500	\$1.00	\$0.14	\$1.39
13	Utilities	\$1,200	50%	\$600	\$1.20	\$0.17	\$1.67
14	Misc. Expenses	\$750	100%	\$750	\$1.50	\$0.21	\$2.08
15	Marketing Expenses	\$5,500	100%	\$5,500	\$11.00	\$1.57	\$15.28
16	Machinery Depreciation	\$7,500	50%	\$3,750	\$7.50	\$1.07	\$10.42
17	Hired Labor	\$14,000	50%	\$7,000	\$14.00	\$2.00	\$19.44
18	Family Living Withdrawal	\$30,000	50%	\$15,000	\$30.00	\$4.29	\$41.67
19	Interest	\$12,285	100%	\$12,285	\$24.57	\$3.51	\$34.13
20	Equity Capital	\$18,000	50%	\$9,000	\$18.00	\$2.57	\$25.00
21	Growth Capital	\$10,000	50%	\$5,000	\$10.00	\$1.43	\$13.89
22	Roth IRA (retirement)	\$6,000	50%	\$3,000	\$6.00	\$0.86	\$8.33
	Breakeven Price (rows 1-19)			\$452,635	\$905	\$129	\$1,257
	Price Objective (rows 1-22)			\$469,635	\$939	\$134	\$1,305

Know the sensitivity of factors affecting profitability

Sensitive Factor	Unit Change	Change in Net Revenue/Head
Avg. Daily Gain	+1/10 lb./day	+\$16.10
Death Loss	+1%	-\$8.05
Feed Price	+\$10/ton	-\$8.19
Feeder Price	+\$1/cwt.	+\$7.00
Interest Rate	+1%	-\$6.43
Stocker Price	+\$1/cwt.	-\$4.50

Use seasonal price trends

Soybean Hulls Seasonal Price Index
Memphis, 2003-2012



Use input price protection

- Forward contracts
- Futures contracts
- Others

Specific ways to manage market price risks

- Be a low cost producer
- Diversify your enterprises
- Have an off-farm job
- Use some form of market price protection
- Use seasonal price trends
- Monitor price opportunities
- Average market prices and spreads over time

Be a low cost producer

- Lowers the breakeven price and price objective
- Lowers potential financial loss
- Improves profitability
- Provides alternatives to use price protection
- Others

Diversify your enterprises

- Output market prices that are not correlated over time help farmers avoid serious financial losses if multiple commodities experience extreme lows at the same time.

Off-farm job

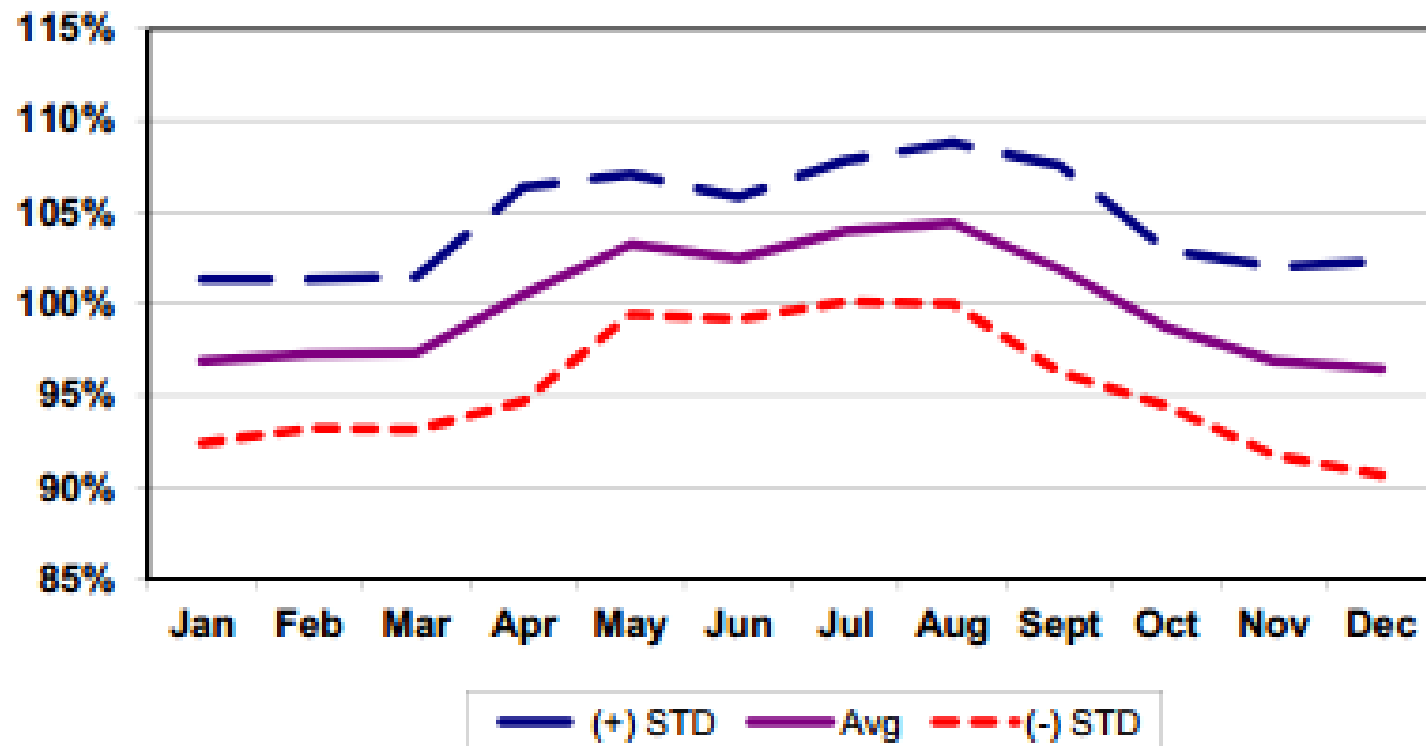
- You and/or spouse have an off farm job to generate income that is not obligated.
- Market skills for hire to neighboring customers

Use market price protection

- Forward contracts
- Futures contracts
- Insurance (Livestock Risk Protection)
- Others

Use seasonal price trends

Tennessee Steer Seasonal Price Index
Medium No. 1, 700-800 lbs., 2002-2011



Evaluate value of gain

Value of Gain Evaluation for Stockers or Backgrounding									
			Market		Market		Total	Total	Dollars
# of Head			Weight		Price		Dollars	Pounds	Head
			Lbs./Hd.		\$/Lb.		\$	Lbs.	\$/Hd.
200	Feeder Calf		450		\$ 1.60		\$ 144,000	90000	\$ 720
194	Feeder Cattle		800		\$ 1.40		\$ 217,280	155200	\$ 1,120
	Difference		350		\$ (0.20)		\$ 73,280	65200	\$ 400
	Value of Gain	=	\$ 217,280	-	\$ 144,000	=	\$ 73,280	Total \$	
	(Total \$)								
	Value of Gain	=	\$ 217,280	-	\$ 144,000	=	\$ 378	/Hd.	
	(\$/Head)			194					
	Value of Gain/Lb.	=	\$ 217,280	-	\$ 144,000	=	\$ 1.12	/Lb.	
	(\$/Pound)			65200					

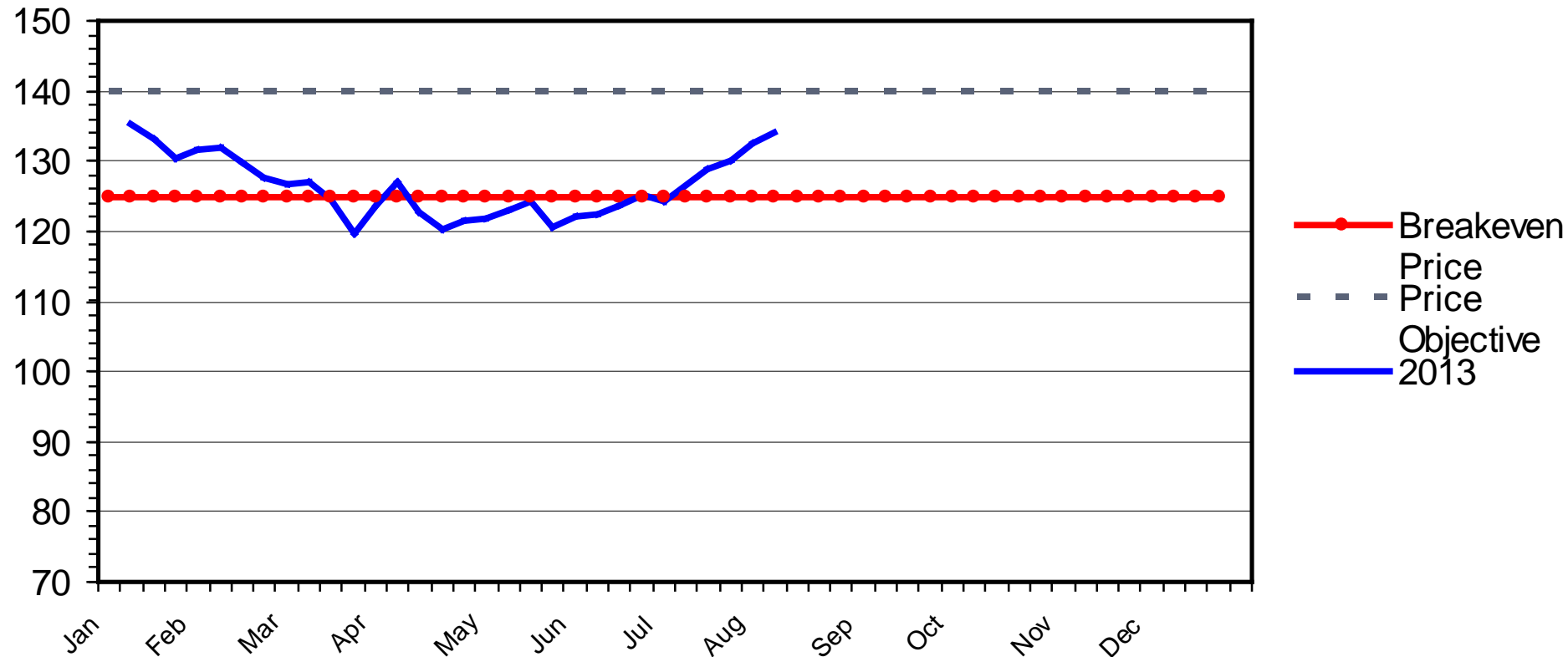
Evaluate value of gain

Value of Gain Evaluation for Stockers or Backgrounding									
# of Head			Market Weight		Market Price		Total Dollars	Total Pounds	Dollars Head
			Lbs./Hd.		\$/Lb.		\$	Lbs.	\$/Hd.
200	Feeder Calf		450		\$ 1.60		\$ 144,000	90000	\$ 720
194	Feeder Cattle		800		\$ 1.60		\$ 248,320	155200	\$ 1,280
	Difference		350		\$ -		\$ 104,320	65200	\$ 560
	Value of Gain	=	\$ 248,320	-	\$ 144,000	=	\$ 104,320	Total \$	
	(Total \$)								
	Value of Gain	=	\$ 248,320	-	\$ 144,000	=	\$ 538	/Hd.	
	(\$/Head)			194					
	Value of Gain/Lb.	=	\$ 248,320	-	\$ 144,000	=	\$ 1.60	/Lb.	
	(\$/Pound)			65200					

Monitor price opportunities daily

Tennessee 700-800 lbs Steers

\$ Per Cwt.



May your boots still shine!

