

# Managing Financial and Market Risk

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# Let's talk about risk

- It is NOT uncertainty!
- It is the negative outcome associated with an unforeseen event.
- Good risk managers
  - Know the odds
  - Don't risk a lot to make a little.
  - Don't risk more than they can afford lose.

# Developing a “Good” Risk Management Plan

1. Identify your major risks
  1. Price
  2. Production
  3. Legal
  4. Financial
  5. Labor
2. Determine what constitutes a “wreck” for you
3. Learn about the alternatives to minimize or manage this risk
4. Develop and implement a risk management plan

# DEALING WITH FINANCIAL RISK

# Three Measures Financial of Stability

1. Profitability
2. Liquidity
3. Solvency

# There is more to profits than a checkbook

1. Profitability - indicates that value exceeds cost and is vital for long-term viability of any business.
2. Liquidity – indicates that the business can pay its bills as they come due.
3. Solvency – indicates the relative value business versus what is owed.

# Potential Sources of Financial Risk

## 1. Profitability

### 1. Revenues too low

1. Low prices
2. Low production

### 2. Costs too high

1. Low production
2. Expenses too high

# Potential Sources of Financial Risk

1. Profitability

2. Liquidity

1. Inadequate working capital

2. Sales don't match cash flow requirements.

3. Financing terms do not match assets.



# Potential Sources of Financial Risk

1. Profitability
2. Liquidity
3. Solvency
  1. Too much leverage
  2. Decreasing asset values

# Managing Financial Risk

1. Determine your cost
2. Increase Calf Value (Revenue)
  1. Higher price
  2. More production
3. Reduce Cow Cost
  1. Cull open cows
  2. Cull unproductive cows
  3. Examine replacement heifer alternatives
4. Reduce the Cost of Production
  1. Evaluate economics of hay production
  2. Evaluate economics of annual forages
  3. Consider alternative feeds

# Know Your Cost

## 1. \$/Cwt. Produced

$$\$/\text{Cwt.} = \frac{\text{Variable Costs} + \text{Total Costs}}{\text{Total Production}}$$

## 2. \$/Calf Marketed

$$\$/\text{Calf} = \frac{\text{Variable Costs} + \text{Total Costs}}{\text{Total Calves Weaned}}$$

## 3. \$/Cow

$$\$/\text{Cow} = \frac{\text{Variable Costs} + \text{Total Costs}}{\text{Females Exposed}}$$

# Lowering Production Cost

1. Develop a budget or review your past expenses.
2. Rank them from largest to smallest.
3. Focus on the biggest ones first.
4. Understand the difference between reducing expenses and cutting corners.

# Conduct Your Own Risk Assessment

Measure	Strong	Stable	Weak
ROA – Owned	5%+	1-5%	1% or less
ROA – Rented	12%+	3-12%	3% or less
Debt/Asset	40% or less	40-65%	65%+
Current Ratio	150%+	100-150%	100% or less
Working Capital Rule	50%+	20-50%	20% or less

Production/Financial Risk Management

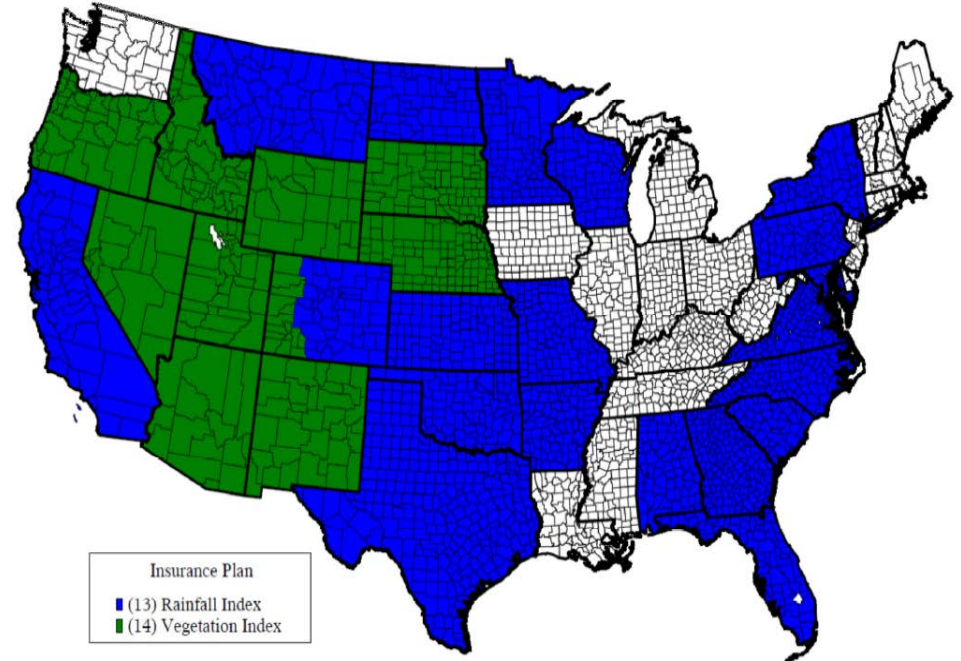
# RAINFALL INDEX INSURANCE



# Rainfall Index Insurance

2012 and Succeeding Crop Years - Pasture, Rangeland, Forage Availability

- Based on a rainfall **index** as calculated by NOAA.
- Producers insure a grid-area = .25 degrees latitude X .25 degrees longitude → approximately 12 mi. X 12 mi.
- Producers insure for specific 2-month time periods



# Rainfall Index Insurance

- Participants choose PRODUCTION levels from 70-90% and PAYMENT levels from 100-150%.
- Indemnity triggers when your GRID rainfall index falls below your coverage level.



# History of Rainfall Index

Year	Jan-Feb	Feb-Mar	Mar-Apr	Apr-May	May-Jun	Jun-Jul	Jul-Aug	Aug-Sep	Sep-Oct	Oct-Nov	Nov-Dec
2013	77.5	63.6	63.5	73.8	144.6	158.8	106.9	73	N/A	N/A	N/A
2012	66.1	112	103.3	113.2	97.1	74.5	99.1	70.8	44.2	43.3	76.9
2011	66	95.2	98.2	77	64.9	59.6	85.9	111.7	82	90.1	67.8
2010	136.9	129.8	70.8	87.7	156	105	74.2	145.6	145.4	45.5	59.3
2009	48.5	87.4	99.5	92.2	113.4	91.3	98.6	96.6	60.5	129.6	211.6
2008	104.4	126.6	133.5	131.7	62.5	97.3	163.8	193	143.8	98.4	119.2
2007	75.3	53.5	61.3	65.7	61.9	66.1	40.6	35.8	105.4	97.1	65.9
2006	73.5	41.5	79.5	131.5	124.2	114.5	99.6	140.6	164	203.5	206.1
2005	67	69.7	80.8	103.3	124	127.3	102.4	80.8	128.2	160.6	122.9
2004	93.7	82	91.4	173.9	118.8	59.9	94.2	122.2	73.5	92.5	86.6
2003	72.5	110.6	143.2	168.7	129.9	147.1	130.6	63.5	80.6	91.9	84.3
2002	89.8	92	94.8	61.5	75.2	90.7	111	92.4	66.6	87.9	71.6
2001	50.9	93.5	61.4	42.6	86.4	82.5	75	68.9	42.1	57.7	54.6
2000	95.3	80.5	107.3	76.1	88.4	98.9	84.6	96.6	70.2	44.5	62.9
Count	10	7	6	7	6	5	5	6	8	5	9
Obs	<u>14</u>	<u>14</u>	<u>14</u>	<u>14</u>	<u>14</u>	<u>14</u>	<u>14</u>	<u>14</u>	<u>13</u>	<u>13</u>	<u>13</u>
Percentage	71.43%	50.00%	42.86%	50.00%	42.86%	35.71%	35.71%	42.86%	61.54%	38.46%	69.23%
Average Amt Below	21.3	20.9	19.2	21.6	16.8	21.5	17.9	27.8	22.1	31.1	20.9
Expected % Below	15.21	10.45	8.25	10.78	7.19	7.67	6.41	11.89	13.58	11.96	14.45



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# Pasture Insurance on 100 Acres in 2012

Please Select a Location:

State:

County:

Grid:



## Protection Information

Intended Use:

Coverage Level (%):

Productivity Factor (%):

Insurable Interest (%):

Insured Acres:

Sample Year:

## Graph

Type:

Index Values  Estimated Indemnities

Range:

Start  End

Intervals:

Jan-Feb  Feb-Mar  Mar-Apr  
 Apr-May  May-Jun  Jun-Jul  
 Jul-Aug  Aug-Sep  Sep-Oct  
 Oct-Nov  Nov-Dec

Table  Graph

Index Interval	Percent of Value (%)	Policy Protection per Unit	Premium Rate per \$100	Total Premium	Premium Subsidy	Producer Premium	Actual Index Value	Indemnity
<u>Jan-Feb</u>	50	\$1,565	11.21	\$175	\$89	\$86	66.1	\$416
<u>Feb-Mar</u>	N/A	\$0	10.82	\$0	\$0	\$0	112.0	\$0
<u>Mar-Apr</u>		\$0	12.79	\$0	\$0	\$0	103.3	\$0
<u>Apr-May</u>	N/A	\$0	9.81	\$0	\$0	\$0	113.2	\$0
<u>May-Jun</u>	50	\$1,565	9.57	\$149	\$75	\$74	97.1	\$0
<u>Jun-Jul</u>	N/A	\$0	8.63	\$0	\$0	\$0	74.5	\$0
<u>Jul-Aug</u>		\$0	10.71	\$0	\$0	\$0	99.1	\$0
<u>Aug-Sep</u>		\$0	12.74	\$0	\$0	\$0	70.8	\$0
<u>Sep-Oct</u>		\$0	17.46	\$0	\$0	\$0	44.2	\$0
<u>Oct-Nov</u>		\$0	16.66	\$0	\$0	\$0	43.3	\$0
<u>Nov-Dec</u>		\$0	14.19	\$0	\$0	\$0	76.9	\$0
Per Acre	N/A	N/A	N/A	\$3.24	\$1.64	\$1.60	N/A	\$4.16
Policy Total	100	\$3,130	N/A	\$324	\$164	\$160	N/A	\$416

County Base Value	\$34.78
Dollar Amount of Protection	\$31.30
Total Insured Acres	100
Total Policy Protection	\$3,130
Subsidy Level	51%
Maximum Percent of Value per Index Interval	50.0%

Calculate

# Hay Insurance on 100 Acres in 2012

Please Select a Location:

State:

County:

Grid:



## Protection Information

Intended Use:

Coverage Level (%):

Productivity Factor (%):

Insurable Interest (%):

Insured Acres:

Sample Year:

## Graph

Type:

Index Values  Estimated Indemnities

Range:

Start  End

Intervals:

Jan-Feb  Feb-Mar  Mar-Apr

Apr-May  May-Jun  Jun-Jul

Jul-Aug  Aug-Sep  Sep-Oct

Oct-Nov  Nov-Dec

## Table

## Graph

Index Interval	Percent of Value (%)	Policy Protection per Unit	Premium Rate per \$100	Total Premium	Premium Subsidy	Producer Premium	Actual Index Value	Indemnity
<a href="#">Jan-Feb</a>	50	\$9,711	11.21	\$1,088	\$554	\$534	66.1	\$2,579
<a href="#">Feb-Mar</a>	N/A	\$0	10.82	\$0	\$0	\$0	112.0	\$0
<a href="#">Mar-Apr</a>		\$0	12.79	\$0	\$0	\$0	103.3	\$0
<a href="#">Apr-May</a>	N/A	\$0	9.81	\$0	\$0	\$0	113.2	\$0
<a href="#">May-Jun</a>	50	\$9,711	9.57	\$929	\$473	\$456	97.1	\$0
<a href="#">Jun-Jul</a>	N/A	\$0	8.63	\$0	\$0	\$0	74.5	\$0
<a href="#">Jul-Aug</a>		\$0	10.71	\$0	\$0	\$0	99.1	\$0
<a href="#">Aug-Sep</a>		\$0	12.74	\$0	\$0	\$0	70.8	\$0
<a href="#">Sep-Oct</a>		\$0	17.46	\$0	\$0	\$0	44.2	\$0
<a href="#">Oct-Nov</a>		\$0	16.66	\$0	\$0	\$0	43.3	\$0
<a href="#">Nov-Dec</a>		\$0	14.19	\$0	\$0	\$0	76.9	\$0
Per Acre	N/A	N/A	N/A	\$20.17	\$10.27	\$9.90	N/A	\$25.79
Policy Total	100	\$19,422	N/A	\$2,017	\$1,027	\$990	N/A	\$2,579

County Base Value	\$215.81
Dollar Amount of Protection	\$194.23
Total Insured Acres	100
Total Policy Protection	\$19,422
Subsidy Level	51%
Maximum Percent of Value per Index Interval	50.0%

Calculate

# DEALING WITH PRICE RISK

# Two Sources of Price Risk

- Output Price
- Input Prices

# Managing Market Risk

- Produce what your market wants
- Utilize available tools to manage risks

# Tools Available Cattle Producers

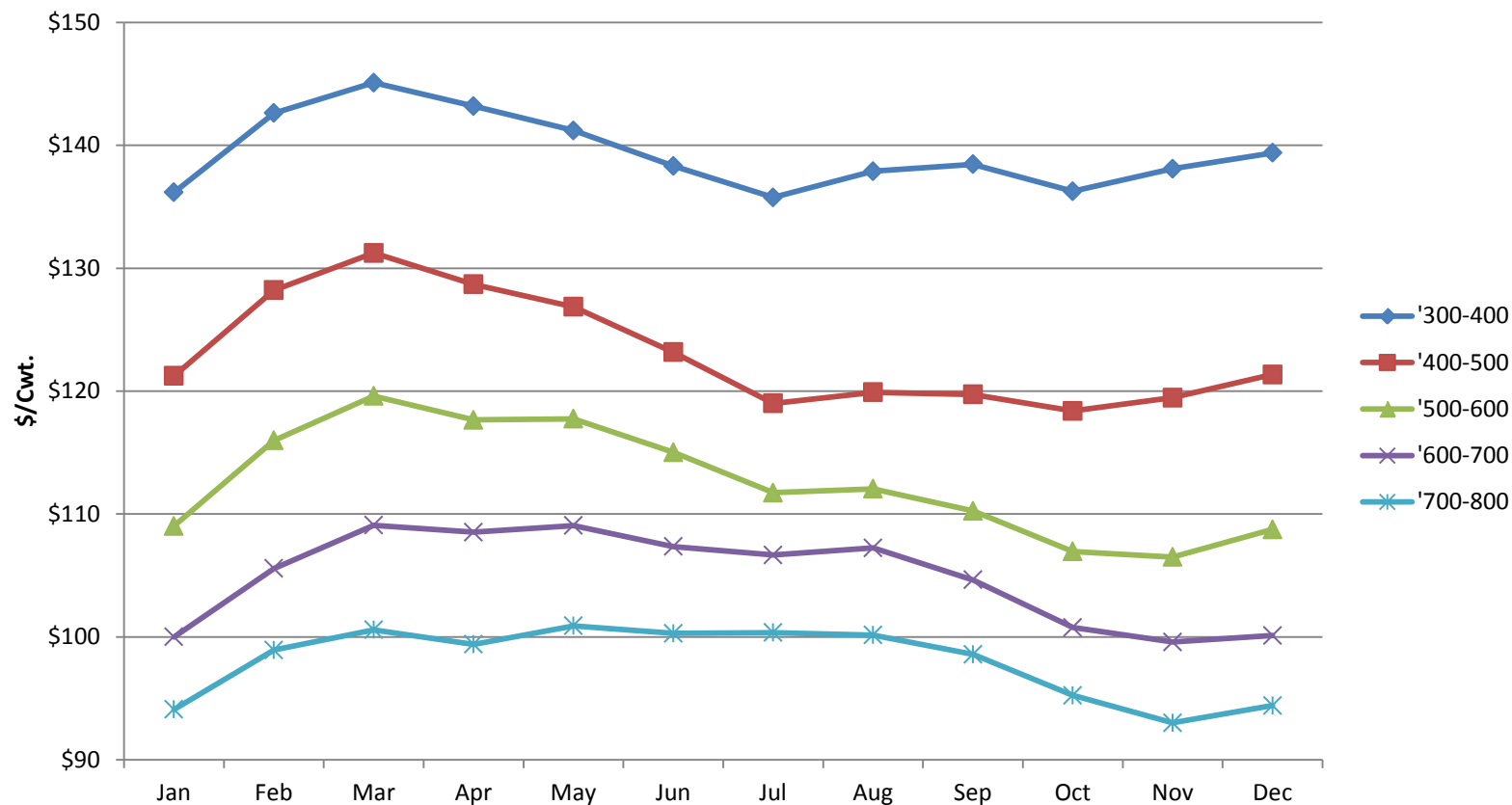
- Cattle producers selling in load lots
  - Hedging
  - Options
  - Video or internet sales for deferred delivery
- All cattle producers
  - Marketing Plans (know your cost)
  - Fencing materials (for keeping bulls separate from cows for 8-10 months out of the year)
  - Utilizing seasonalities in selling and purchasing inputs
  - Livestock Risk Protection (LRP) program

# Using Seasonalities to Market Cattle

- Beef cattle prices usually follow a seasonal trend.
- These trends are **USUALLY** fairly predictable.
- We can use these seasonalities to estimate anticipated cash prices:
  - Decide on a future marketing date.
  - Decide if we want to pre-price now.
  - Decide if we want to sell now as opposed to stockering or feeding.



## Average Monthly Prices of Georgia Feeder Cattle, 2006-2012



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# Percentage of Time Average Prices Were in the TOP 25% for the Year, 2006-2012

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
500-600 lbs. Str.	14%	43%	57%	71%	43%	0%	14%	29%	0%	0%	0%	29%
700-800 Lbs Str.	14%	43%	29%	14%	29%	0%	71%	57%	14%	0%	0%	29%

# Percentage of time Average Prices Were in the BOTTOM 25% for the Year, 2006-2012

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
500-600 lbs. Str.	57%	14%	0%	0%	0%	0%	14%	29%	29%	57%	57%	43%
700-800 Lbs Str.	43%	43%	0%	14%	0%	0%	14%	14%	29%	43%	57%	43%

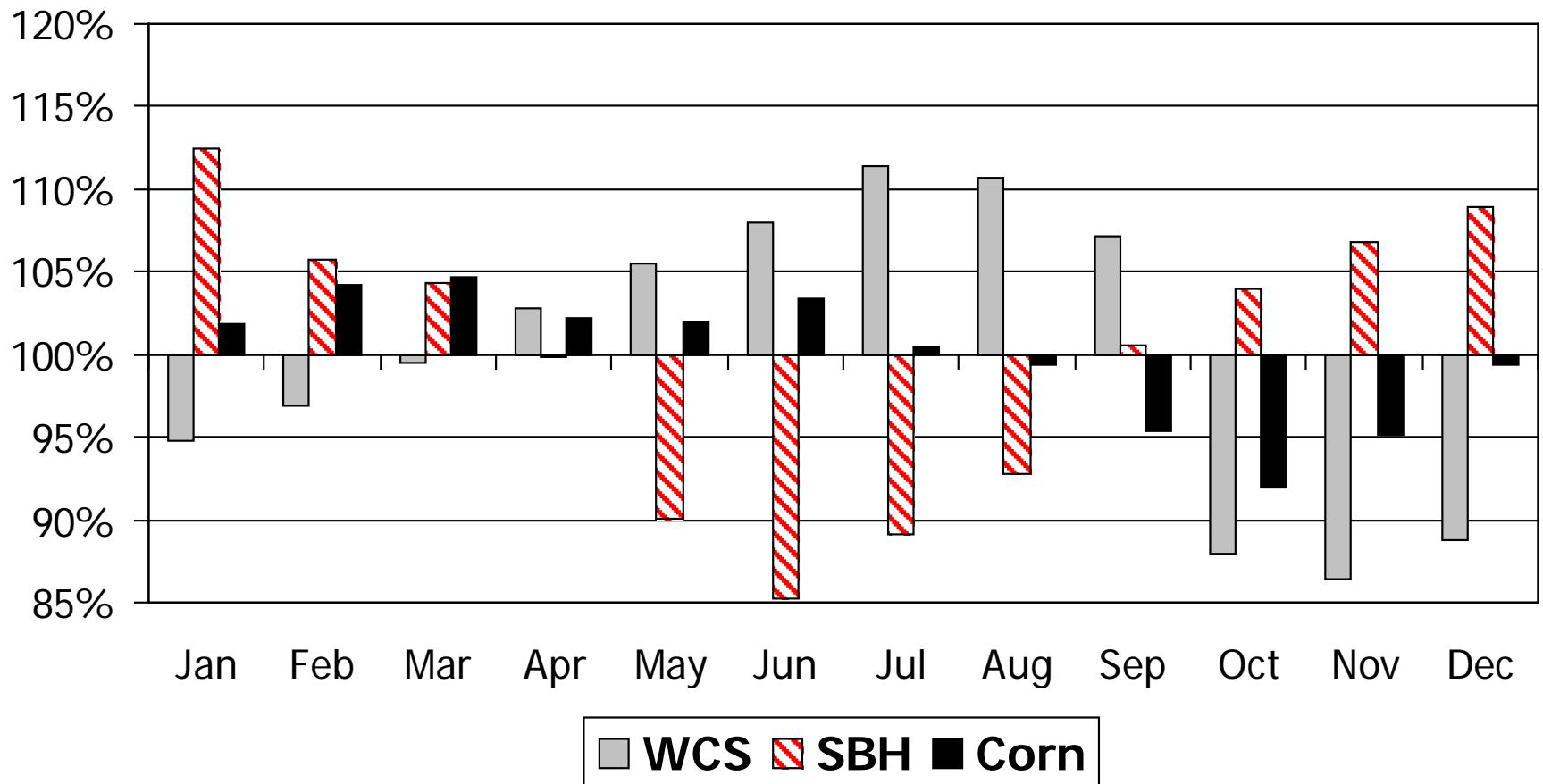
# USING SEASONALS FOR PURCHASING INPUTS

# Correlations of Traded Commodities and Common By-products

	Corn	Corn Gluten Meal	Corn Gluten Feed Pellets	Soybean Hulls	Soybean Meal 48%	Cottonseed Whole	DDG
Corn	0.926	0.755	0.805	0.827	0.580	0.646	0.855
Soybean	0.781	0.895	0.822	0.666	0.899	0.825	0.825
Soybean Meal	0.706	0.877	0.746	0.566	0.956	0.790	0.792

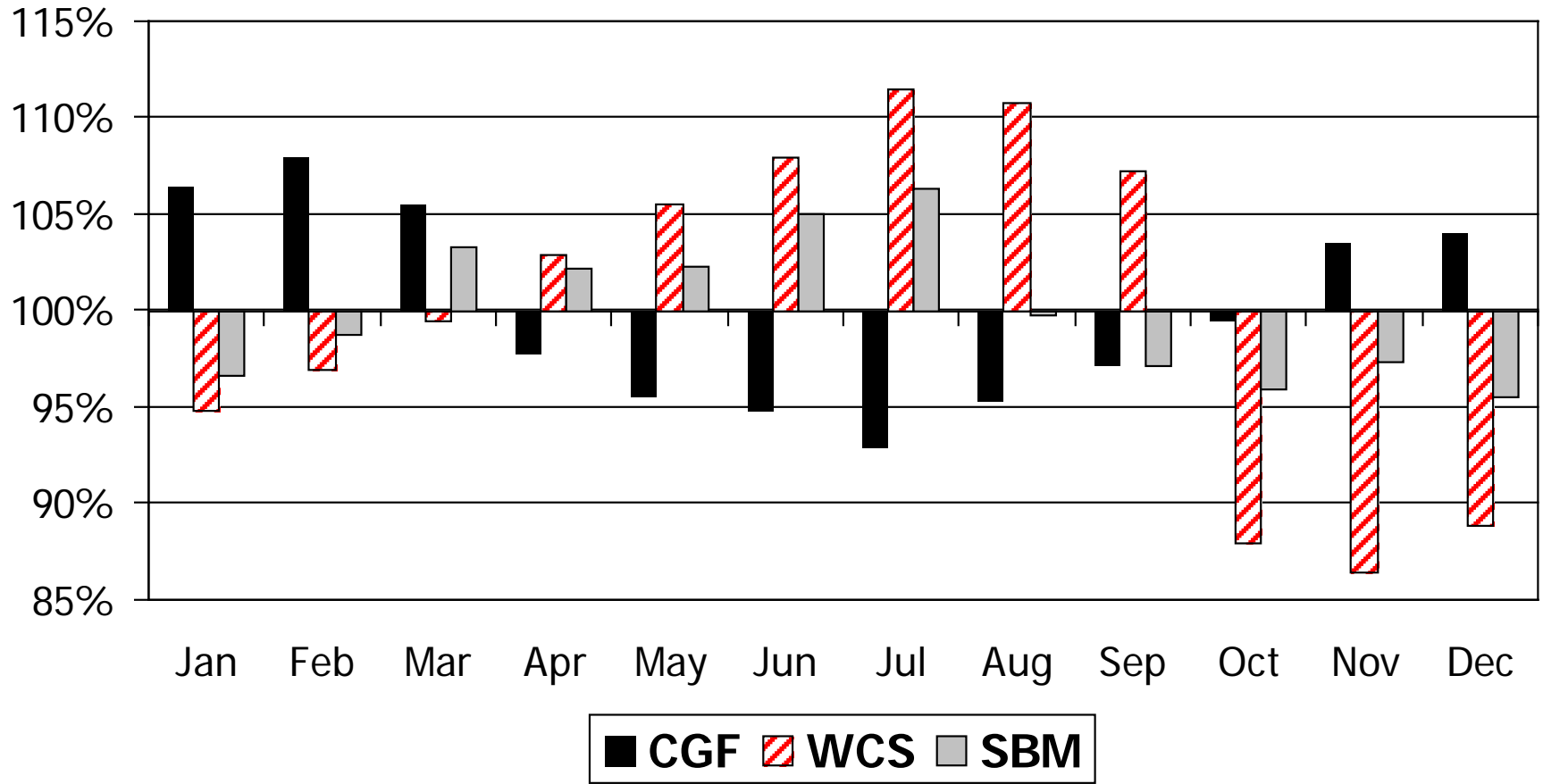
Source: Tammy McKinley, University of Tennessee

# Combined Indices for Energy Feeds 2001-2007



Adapted from McKinley, University of Tennessee

# Combined Protein Indices, 2001-2007



Adapted from McKinley, University of Tennessee

# Using Livestock Risk Protection (LRP) insurance to set a floor price

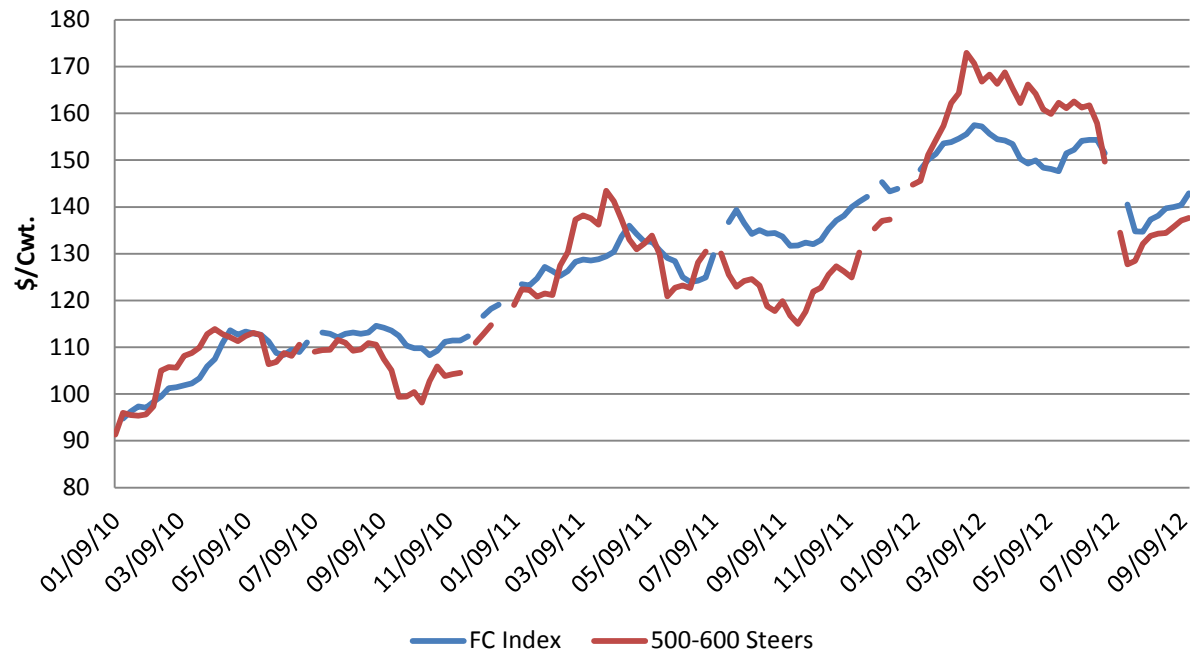


# LRP Is Price Risk Protection

- Establishes A Floor Selling Price For Livestock
- Pays Producers If A Regional/National Cash Price Index Falls Below A Set Price
  - Does Not Guarantee A Cash Price Received
  - Basis Risk Must Still Be Considered
- Covers Feeder Cattle, Fed Cattle, & Swine

# GA LRP BASIS, 2010-2012

## Comparison of 500-600 pound Steers and CME FC Index



# Eligible Cattle

- Feeder Cattle
  - Feeder Steers & Heifers < 600 lbs.
  - Feeder Steers From 600-900 lbs.
  - Includes Dairy & Brahman Breeds
- Fed Cattle
  - Steers & Heifers
  - Select Or Higher, Yield Grade 1-3
  - Weight: 1,000-1,400 lbs.

# Coverage Availability

- Coverage Available About 5pm To 9am CST
  - Available Sat Mornings Until 9am, But Not Sun, Mon, & Holidays
- Coverage Initiated With Specific Coverage Endorsement (SCE)
  - No Limit On Number Of SCEs
- Producers Have Flexibility On The:
  - Timing Of Purchase
  - Time Length Of The SCE
  - Number Of Head Covered

# Limitations On Number Of Head Insured

	Fed Cattle	Feeder Cattle
Per Specific Coverage Endorsement	2,000	1,000
Per Crop Year July 1-June 30	4,000	2,000

# LRP Compared to Hedging or Options

- Advantages
  - No need to establish brokerage accounts
  - Can insure animals on individual basis
  - “Guaranteed” availability for price protection for far-off futures contracts
- Disadvantages
  - Paperwork can take a while
  - Available only for animals in certain states
  - Can’t “lock-in” a price
  - Can’t exercise or “sell back” contract if market goes up

## LRP Coverage Prices, Rates, and Actual Ending Values - Report for 11/26/2013

State	County	Endorsement Length	Commodity	Type	Practice	Crop Year	Exp. End Value	Coverage Price	Coverage Level	Rate	Cost Per CWT	End Date	Actual End Value
37 North Carolina	998 All Counties	17	0801 Feeder Cattle	810 Steers Weight 2	997 No Practice Specified	2014	164.300	\$156.000	0.949500	0.008167	1.274	03/25/2014	
37 North Carolina	998 All Counties	17	0801 Feeder Cattle	810 Steers Weight 2	997 No Practice Specified	2014	164.300	\$154.000	0.937300	0.006227	0.959	03/25/2014	
37 North Carolina	998 All Counties	17	0801 Feeder Cattle	810 Steers Weight 2	997 No Practice Specified	2014	164.300	\$150.000	0.913000	0.003560	0.534	03/25/2014	
37 North Carolina	998 All Counties	17	0801 Feeder Cattle	810 Steers Weight 2	997 No Practice Specified	2014	164.300	\$148.000	0.900800	0.002838	0.420	03/25/2014	
37 North Carolina	998 All Counties	21	0801 Feeder Cattle	810 Steers Weight 2	997 No Practice Specified	2014	165.195	\$160.000	0.968600	0.015356	2.457	04/22/2014	
37 North Carolina	998 All Counties	21	0801 Feeder Cattle	810 Steers Weight 2	997 No Practice Specified	2014	165.195	\$158.000	0.956400	0.012215	1.930	04/22/2014	
37 North Carolina	998 All Counties	21	0801 Feeder Cattle	810 Steers Weight 2	997 No Practice Specified	2014	165.195	\$156.000	0.944300	0.009769	1.524	04/22/2014	
37 North Carolina	998 All Counties	21	0801 Feeder Cattle	810 Steers Weight 2	997 No Practice Specified	2014	165.195	\$154.000	0.932200	0.007831	1.206	04/22/2014	
37 North Carolina	998 All Counties	21	0801 Feeder Cattle	810 Steers Weight 2	997 No Practice Specified	2014	165.195	\$150.000	0.908000	0.005153	0.773	04/22/2014	
37 North Carolina	998 All Counties	26	0801 Feeder Cattle	810 Steers Weight 2	997 No Practice Specified	2014	165.914	\$153.410	0.924600	0.009589	1.471	05/27/2014	
37 North Carolina	998 All Counties	30	0801 Feeder Cattle	810 Steers Weight 2	997 No Practice Specified	2014	166.214	\$153.710	0.924800	0.011554	1.776	06/24/2014	
37 North Carolina	998 All Counties	34	0801 Feeder Cattle	810 Steers Weight 2	997 No Practice Specified	2014	166.407	\$153.910	0.924900	0.013053	2.009	07/22/2014	

# Risk Management Summary

- Identify your major risks.
- Develop a plan to address them.
- Realize there is not one risk management plan for everyone.
- Don't be afraid to ask for help.



# Managing Financial and Market Risk

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