Marketing Livestock and Grain

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OUTLINE

1. Overview of Marketing Options
2. Revenue and Yield Insurance (RP, YP)
3. Forward, Futures, and Options

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Considerations for Insurance

1. What are your main areas of risk?
   - Price, yields, revenue?
2. What is your break-even price?
3. Will insurance payouts align with losses?
4. Coverage level v. cost of insurance?
5. Multiple or single peril insurance?
6. Are you willing and able to cover losses?

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Overview of Options

1. Yield Protection
   - Protects against yield shortfalls
2. Revenue Protection
   - Protects against revenue shortfalls
3. Forward and Futures Contracts
   - Locks in output price
4. Put Option
   - Protects against downward price movements

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Agricultural Insurance Options

- Wheat Price is variable
  - To protect against price risk
    1. I can store if prices fall
    2. I can lock in on a price (forward contract, futures contract) – forfeit upside risk
       - Forward contract eliminates basis risk
       - Futures contract requires margin account (~ $2,450 for HRSW)

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Agricultural Insurance Options

- Expected sale date is September 2017
  - Forward contract: $5.25
  - Futures contract: $5.75
    - Why are these prices different?
    - Futures settled daily through margin account
    - Forward settled once (at end of contract)

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Agricultural Insurance Options

- To protect against price risk
  3. I can buy an insurance policy (put option) – retain upside risk
     - Provide minimum futures price of $5.20
     - If futures price falls below, option is redeemable to cover losses
     - Premium paid up front
     - Value of contract changes constantly (~$500 now)
     - If prices increase, premium is lost but higher prices are realized

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An Example: Price Decreases

- 5,000 bushels of wheat
- Local price falls to $4.25 in Oct
- Futures price falls to $4.75 in Oct

Contract	Total Revenue	Difference from no hedging
Cash Market (No hedging)		
Forward ($8.65)		
Short hedge / Futures ($9.15)		
Put Option (T = $8.50)		

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An Example: Price Decreases

- 5,000 bushels of wheat
- Local price falls to $4.25 in Oct
- Futures price falls to $4.75 in Oct

Contract	Total Revenue	Difference from no hedging
Cash Market (No hedging)	(5,000 bu)* ($4.25) = $21,250	
Forward ($5.25)	(5,000 bu)* ($5.25) = $26,250	+ 5,000
Short hedge / Futures ($5.75)	Sell crop for $4.25 per bushel, Gain in futures contract, +$5,000 [($5.75 - $4.75)*5000] = $5,000	+ 5,000
Put Option (T = $5.20)	Sell crop for $4.25 per bushel, Gain in options contract, +2,250 – 500 = +1,750	+ 1,750

An Example: Price Increases

- 5,000 bushels of wheat
- Local price increases to $6.25 in Sep
- Futures price increases to $6.75 in Sep

Contract	Total Revenue	Difference from no hedging
Cash Market (No hedging)		
Forward ($5.25)		

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An Example: Price Increases

- 5,000 bushels of wheat
- Local price increases to $6.25 in Sep
- Futures price increases to $6.75 in Sep

Contract	Total Revenue	Difference from no hedging
Cash Market (No hedging)	(5,000 bu)* ($6.25) = $31,250	
Forward ($5.25)	(5,000 bu)* ($5.25) = $26,250	- 5,000

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An Example: Price Increases

- 5,000 bushels of wheat
- Local price increases to $6.25 in Sep
- Futures price increases to $6.75 in Sep

Contract	Total Revenue	Difference from no hedging
Cash Market (No hedging)	(5,000 bu)* ($6.25) = $31,250	
Forward ($5.25)	(5,000 bu)* ($5.25) = $26,250	- 5,000
Short hedge / Futures ($5.75)		
Put Option (T = $5.20)		

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An Example: Price Increases

- 5,000 bushels of wheat
- Local price increases to $6.25 in Sep
- Futures price increases to $6.75 in Sep

Contract	Total Revenue	Difference from no hedging
Cash Market (No hedging)	(5,000 bu)* ($6.25) = $31,250	
Forward ($5.25)	(5,000 bu)* ($5.25) = $26,250	- 5,000
Short hedge / Futures ($5.75)	Sell crop for $6.25 per bushel, loss in futures contract, -$5,000	- 5,000
Put Option (T = $5.20)	Sell crop for $9.50 per bushel, Options contract expires without value, – 500	- 500

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Agricultural Insurance Options

- Yield outcomes are variable
  - To protect against production risk
    1. I can buy an insurance policy against low yields (YP)
       - More details tomorrow
       - Provide minimum yields
       - Subsidized premium rate
       - Yield guarantee based on % of average yields
       - Price determined prior to planting

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Yield Insurance Example

<u>Assumptions</u>

•APH yield = 40 bushels/acre

•75% Coverage

•100 Acres of spring wheat

•Actual Yield = 20

•RMA Projected Price = $5.63/bushel

•Yield Guarantee = 30 bu/acre [40*0.75]

•Yields < 30 indemnified at settled price

•Indemnity = (30-20)*5.63*100 = $5,630
= $56 per acre

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Agricultural Insurance Options

Basic crop insurance options include

•Yield Protection (YP)

•Revenue Protection (RP)

•Revenue Protection / Harvest Price Exclusion (RP/HPE)

•Group Insurance (GRP/GRIP)

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Revenue Protection

1. Covers weather-related causes of loss and price fluctuations
2. More closely aligns with economic conditions
3. Harvest price exclusion option is available

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RP Example

	Scenario 1 (Price Increases)	Scenario 2 (Price Decreases)
APH	50	50
Projected Price	$5.63	$5.63
Harvest Price	$8.00	$4.00
Coverage Level	75%	75%
Projected Guarantee	$211	$211
Harvest Guarantee	$300	$211
<u>Revenue</u>		
Yields = 50	$400	$200
Yields = 30	$240	$120
<u>Indemnity</u>		
Yields = 50	$0	$11
Yields = 30	$60	$91

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QUESTIONS?
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