

Economics 5030
 Agricultural Marketing and Price Analysis
 Example Futures and Options Problems

Wheat Example

Current Situation

	Date	March 1	July Wheat Options		
			Strike	Put	Call
Current Cash		\$4.20/bu	\$3.80	\$0.10	
July Wheat Futures		\$4.00/bu	\$3.90	\$0.16	
Expected June Basis		-\$0.10/bu	\$4.00	\$0.24	\$0.22
Expected Production		15,000 bu	\$4.10		\$0.14
Expected Harvest		June 25	\$4.20		\$0.09

Questions

How many contracts would you need to purchase to be fully hedged? _____

If you placed a hedge using July futures, what is your expected net sale price? _____

If you established a minimum price using the options, what would be your expected minimum price for a \$3.90 Put? _____

Based on the information contained in the situation, do you think prices will move higher/lower?
 Why _____

Scenario 1 Assume that there is a good growing season and that on June 28 you sell wheat for \$3.50 per bushel to your local elevator and that July Wheat Future are at \$3.65 per bushel. Show the results of a Futures hedge.

Date	Cash	Futures	Basis
1-Mar			
28-Jun			

NSP =

Scenario 2 Assume that there is a poor growing season and that on June 28 you sell wheat for \$4.60 per bushel to your local elevator and that July Wheat Future are at \$4.70 per bushel. Show the results of a Futures hedge.

Date	Cash	Futures	Basis
1-Mar			
28-Jun			

NSP =

Scenario 3 Assume that there is a good growing season and that on June 28 you sell wheat for \$3.50 per bushel to your local elevator and that July Wheat Future are at \$3.65 per bushel. Show the results of Purchasing a \$3.90 July Put (Assume 0 time value on June 28)

Date	Cash	Options	Basis
1-Mar			
28-Jun			

NSP =

Scenario 4 Assume that there is a poor growing season and that on June 28 you sell wheat for \$4.60 per bushel to your local elevator and that July Wheat Future are at \$4.70 per bushel. Show the results of Purchasing a \$3.90 July Put (Assume 0 time value on June 28)

Date	Cash	Options	Basis
1-Mar			
28-Jun			

NSP =

Feeder Cattle Example

Current Situation

You purchase 200 steer calves on Apr 15, with your tax refund. They weigh 650 pounds and you pay \$1.10 per lb (110/cwt). You expect to have them on summer grass until September 15. They should then weigh 875 lbs. You expect your total cost per head for the summer to be \$100.

Date	Apr 15	September Feeder Cattle Options		
		Strike	Put	Call
Current Cash 875 lb steer	\$102/cwt	\$106	\$1.75	
Sept FC Futures	\$110/cwt	\$108	\$2.25	
Expected Sept Basis	-\$8/cwt	\$110	\$3.00	\$3.05
Expected Production (2 die) 173,250 lbs		\$112		\$2.28
Expected Sale	Sept 15	\$114		\$1.70

Questions

What is your expected break-even selling price (the \$100 includes death loss)? _____

How many contracts would you need to purchase to about 2/3 hedged? _____

If you placed a hedge using Sept futures, what is your expected net sale price? _____

If you established a minimum price using the options, what would be your expected minimum price for a \$106 Put? _____

Based on the information contained in the situation, do you think prices will move higher/lower? Why _____

Scenario 1 Assume that your calves gain as expected but the market has declined. On Sept 15 you sell your feeder cattle for \$95 per cwt to an order buyer and that Sept. FC Futures are at \$100 per cwt. Show the results of a Futures hedge.

Date	Cash	Futures	Basis
15-Apr			
15-Sep			

NSP =

Scenario 2 Assume that your calves gain as expected but the market has increased. On Sept 15 you sell your feeder cattle for \$110 per cwt to an order buyer and that Sept. FC Futures are at \$118 per cwt. Show the results of a Futures hedge.

Date	Cash	Futures	Basis
15-Apr			
15-Sep			

NSP =

Scenario 3 Assume that your calves gain as expected but the market has declined. On Sept 15 you sell your feeder cattle for \$95 per cwt to an order buyer and that Sept. FC Futures are at \$100 per cwt. Show the results of purchasing a 106 Put option (assume 0 time value on Sept 15).

Date	Cash	Options	Basis
15-Apr			
15-Sep			

NSP =

Scenario 4 Assume that your calves gain as expected but the market has increased. On Sept 15 you sell your feeder cattle for \$110 per cwt to an order buyer and that Sept. FC Futures are at \$118 per cwt. Show the results of purchasing a 106 Put option (assume 0 time value on Sept 15).

Date	Cash	Options	Basis
15-Apr			
15-Sep			

NSP =

Scenario 5 Assume that you are a feedlot operator that is wanting to purchase yearlings steers coming off of grass in September. It is April and you are concerned about higher prices so you place a long hedge on the cattle. On Sept 15 your order buyer buys feeder cattle for \$110 per cwt and Sept. FC Futures are at \$118 per cwt. Show the results of a long hedge position.

Date	Cash	Futures	Basis
15-Apr			
15-Sep			

NPP =

Scenario 6 Assume that you are a feedlot operator that is wanting to purchase yearlings steers coming off of grass in September. It is April and you are concerned about higher prices so you purchase a \$112 Call option. On Sept 15 your order buyer buys feeder cattle for \$110 per cwt and Sept. FC Futures are at \$118 per cwt. Show the results of a purchasing the \$112 Call (Assume 0 time value in the Call on Sept. 15).

Date	Cash	Options	Basis
15-Apr			
15-Sep			

NPP =

Scenario 7 Assume that you are a feedlot operator that is wanting to purchase yearlings steers coming off of grass in September. It is April and you are concerned about higher prices so you purchase a \$112 Call option. On Sept 15 your order buyer buys feeder cattle for \$95 per cwt and Sept. FC Futures are at \$100 per cwt. Show the results of a purchasing the \$112 Call (Assume 0 time value in the Call on Sept. 15).

Date	Cash	Options	Basis
15-Apr			
15-Sep			

NPP =