CRC

for

Premium

Quality

Wool

Price Risk Management Exercises

Produced for the CRC for Premium Quality Wool undergraduate program by;
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Forward Selling Exercise

- Analyse different offers to determine the most appropriate one

- SCENARIO 1
  - Increase Micron by 1
  - Decrease VM by 0.5%

- SCENARIO 2
  - Decrease Micron by 1
  - Increase VM by 0.5%

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Forward Selling Information

Base Clip

	Micron	VM	Yield
	19.5	1.0	67

Offers

Merchant	Base Price	Per point Micron	VM per 0.5%	Yield per 0.5%
A	500	10	3	3
B	490	9	4	3
C	510	13	3	3

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Forward Selling Worksheet

Scenario 1 (micron up by 1, VM down by 0.5%)

Merchant	A	B	C
Base	500	490	510
Micron			
V.M.			
Price Paid			
Rank			

Scenario 2 (micron down by 1, VM up by 0.5%)

Merchant	A	B	C
Base	500	490	510
Micron			
V.M.			
Price Paid			
Rank			

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Futures Exercise 1

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It is October.

- A woolgrower will be selling 17,000 clean kg MF5., 21µm fleece wool in January
- Wool prices have been trending down recently.
- Presently MF5, 21µm fleece wool is selling for 550 cents/kg clean and December 21µm greasy wool futures are quoted at 558, whilst February futures are quoted at 565 cents.
- The woolgrower wishes to hedge 5,000 kg clean of the clip and wishes to receive approximately 550 cents/kg clean.

Futures Worksheet 1a

1. What is the woolgrower's price risk ?

2. How many contracts will the woolgrower need to trade to cover their price risk?

3. What contract month will the woolgrower trade?

4. Illustrate the hedge the woolgrower would implement:

Oct	Physical	Futures
	Woolgrower intends to sell 21µm fleece wool in January & wishes to receive approx. 550 cents/kg clean	

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Futures Worksheet 1b

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It is now January, the market has risen & the woolgrower sells 16,400 kg MF5., 21µm fleece wool for 670 cents. February futures contracts are currently 690 cents.

Jan	Physical	Futures

5. What effective price per clean kg does the woolgrower receive for the hedged wool?

6. What effective price per clean kg does the woolgrower receive for their woolclip?

Futures Exercise 2

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It is April

- A wool buyer needs to purchase 20,000 clean kgs of MF5., 21µm FNF, fleece wool in June to satisfy an existing contract. Wool prices have been trending up recently.
- Presently MF5., 21µm fleece wool is selling for 750 cents/kg clean & August 21µm greasy wool futures are quoted at 785 cents.
- The wool buyer would like to obtain a degree of price certainty & expects to pay approx. 780 cents/kg clean. The wool buyer does not have access to finance to purchase the wool & decides to manage their price risk by using futures.

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Futures Worksheet 2a

1. What is the wool buyer's price risk ?

2. How many contracts will the wool buyer need to trade to cover their price risk?

3. What contract month will the wool buyer trade?

4. Illustrate the hedge the wool buyer would implement:

April	Physical	Futures
	Wool buyer intends to buy 21µm fleece wool in June & expects to pay approx. 780 cents/kg clean	

Geoff Honey

Futures Worksheet 2b

It is now June, the market has risen. The wool buyer pays 830 cents/kg clean for the MF5., 21µm fleece wool. At the same time the wool buyer closes the futures position at 850 cents.

Jan	Physical	Futures

5. What effective price does the wool buyer pay?

6. Why would the wool buyer buy the wool on the cash market rather than take delivery against the futures contract?

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OTC Futures Exercise 1

MPG	MPG at commencement	Position taken	MPG at expiry	Profit / loss, cents/kg
20	750	Sold	500	
21	675	Sold	665	
23	550	Buy	450	
24	450	Sold	565	
19	850	Buy	1000	
23	575	Buy	520	
24	500	Sold	475	
21	750	Buy	675	
22	720	Sold	650	
23	510	Sold	500	

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ANSWER SLIDES

- The following slides answer the corresponding exercises preceding

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Forward Selling Answers

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Scenario 1

Merchant	A	B	C
Base	500	490	510
Micron	-100	-90	-130
V.M.	+3	+4	+3
Price Paid	403	404	383
Rank	2	1	3

Forward Selling Answers

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Scenario 2

Merchant	A	B	C
Base	500	490	510
Micron	+100	+90	+130
V.M.	- 3	- 4	- 3
Price Paid	597	576	637
Rank	**2**	**3**	**1**

Futures Worksheet 1a Answer

1. What is the woolgrower's price risk? - **That prices will fall**

2. How many contracts will the woolgrower need to trade to cover their price risk - **2**

3. What contract month will the woolgrower trade?- **February**

4. Illustrate the hedge the woolgrower would implement:

Oct	Physical	Futures
	Woolgrower intends to sell 21µm fleece wool in Jan. & wishes to receive approx. 550 cents/kg clean for 5,000kg of the clip	**Woolgrower sells 2 February wool futures at 565 cents**

Futures Worksheet 1b Answer

It is now January, the market has risen & the woolgrower sells 16,400 kg MF5, 21µm fleece wool for 670 cents. February futures contract are currently 690 cents.

Jan	Physical	Futures
	Sells 16,400 kg wool for 670 cents/kg clean	Woolgrower buys 2 Feb. wool futures at 690 cents Sold futures for: 565 cents Buy futures for: 690 cents Loss on futures 125 cents

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Futures Worksheet 1b Answer (cont.)

5. What **effective price** per clean kg does the woolgrower receive for the **hedged wool**?

Hedged wool sold	**5,000kgs X 670 cents**	**$33,500**
Less loss on futures trade	**2 X 2,500 X 125 cents**	**- $6,250**
		$27,250

Divide by kg ***$27,250/5,000*** ***545cents/kg clean***

6. What **effective price** per clean kg does the woolgrower receive for their **woolclip**?

Wool sold	**16,400kgs X 670 cents**	**$109,880**
Less loss on futures	**5,000kgs X 125 cents**	**- $6,250**
		$103,630

Divide by kg ***$103,630/16,400*** ***632 cents/kg clean***

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Futures Worksheet 2a   Answer

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1. What is the wool buyer's price risk? - **That prices will rise**

2. How many contracts will the wool buyer need to trade to cover their price risk - **8**

3. What contract month will the wool buyer trade?- **August**

4. Illustrate the hedge the wool buyers would implement:

April	Physical	Futures
	Wool buyer intends to buy 21µm fleece wool in June & expects to pay approx. 780 cents/kg clean	**Buy 8 August wool futures at 785 cents**

Futures Worksheet 2b Answer

It is now June, the market has risen. The woolbuyer pays 830 cents/kg clean for MF5., 21µm fleece wool. At the same time the woolbuyer closes the futures position at 850 cents.

June	Physical	Futures
	Buys wool for 830 cents/kg clean	Sells 8 August wool futures at 850 cents Sold futures for - 850 cents Buy futures for - 785 cents Profit on futures 65 cents

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Futures Worksheet 2b Answer (cont.)

5. What effective price does the wool buyer pay?

830 - 65 = 765 cents

6. Why would the wool buyer buy the wool on the cash market rather than take delivery against the futures contract?

The wool buyer has a contract that details the specifications of the wool that the wool buyer needs to deliver. It is highly unlikely that the wool that the wool buyer would take delivery of would suit the specifications required.

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OTC Futures Exercise 1 Answer

MPG	MPG at commencement	Position taken	MPG at expiry	Profit / loss, cents/kg
20	750	Sold	500	250
21	675	Sold	665	10
23	550	Buy	450	-100
24	450	Sold	565	-115
19	850	Buy	1000	150
23	575	Buy	520	- 55
24	500	Sold	475	25
21	750	Buy	675	- 75
22	720	Sold	650	70
23	510	Sold	500	10

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