Mark Welch, Extension Economist—Grain Marketing JMWelch@tamu.edu (979)845-8011

Marketing Tools

- Cash sell at harvest
- Pool sales
- Cash forward contract
- Sell futures contracts
- Buy put options



- Buy puts and sell calls
- Cash contract and buy calls
- Sell futures and buy a call, sell a call
- Buy a put, sell a put, buy a call
- Buy options on contracted or pooled sales



Marketing Strategies

- Basics 1. Do Nothing
 - Cash sales at harvest
 - 2. Fix Price Now
 - Cash forward contract
 - Hedge with futures contracts
 - 3. Set a Price Floor
 - Options
- Advanced 4. Set a Price Floor/Ceiling
 - Options



1. Do Nothing

- If you do no pre-harvest pricing, you are a speculator in the cash market.
- You accept all the price risk between now and whenever you decide to sell.



2. Fix Price Now—Cash Contract

- Private negotiation in which the producer and the merchant agree now upon a price of a commodity to be delivered in the future
- Advantages
 - Producer and merchant lock in a price ahead of time
 - Helps eliminate the uncertainty caused by price fluctuations



2. Fix Price Now: Hedging with Futures Contracts

- Hedging is a position in the futures market that is opposite one's position in the cash market.
- Since futures and cash markets move together, any loss in the cash market is offset by gains in the futures market.
- Hedging is doing *now* in the futures market what you anticipate doing *later* in the cash market.



Corn		С			Futur	es									
prices in !	\$/bushel	(Current		\$	4.550	0								
		1	Harvest		\$	3.8	0								
		1	Basis		\$	0.2	0								
				ct Offer	\$	4.7		\A/hat	if I'm ri	aht.					
Acres				25		1.57		vviidi	: if l'm ri	giit.					
bu/acre				200				4.74/bu							
								4	•.74/bu						
est. production, bu		5. I		5,000					_						
pre-harve	est mkt		1.00		0										
pre harve	st bushels	s	5,000												
contract :	spec, bu			5,000	Č.										
contracts	to hedge		1.0												
contract	month		Decen	December		Options exp		11/26/20	21 Contract exp	12/14/2021					
Hedging with	h Futures Con	tracts													
	Pre-delivery														
		Sell Futures	S	1	Decembe	er	c	\$4.55000							
	At delivery														
		Buy Futures		1	December	r	C	\$3.80							
	Profit(los			0 - 10 g				\$0.75000		\$3,750.00					
			et profit (loss) from hedge							(\$50.00)					
		Net profit (\$3,700.00					
		Basis at del	ivery				-	\$0.2000							
		Sell		5,000	bushels			\$4.00		\$20,000.00					
		Net grain sa	ales							\$23,700.00					
		Average pri	ice per bu	ushel						\$4.7400					

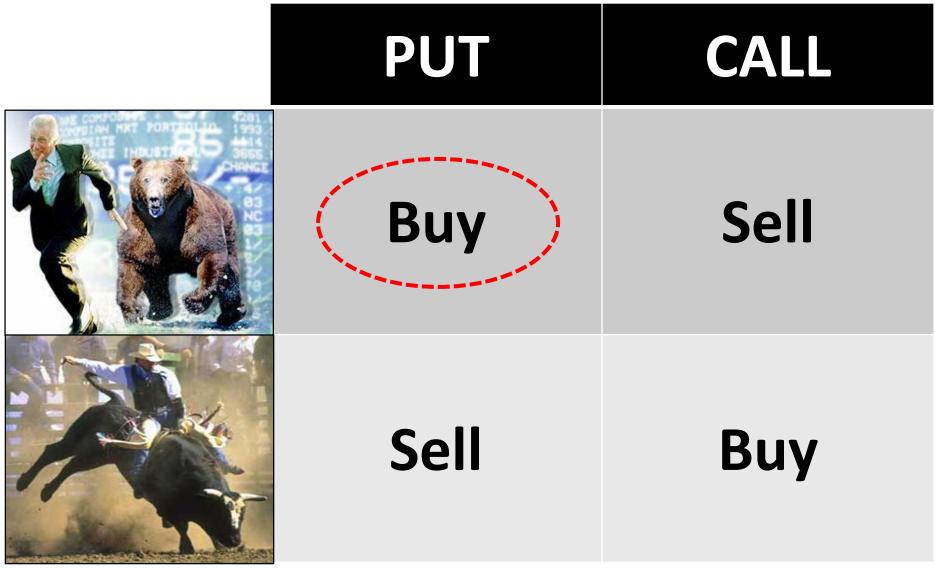


Corn		С			Futu	Futures								
prices in \$	/bushel	(Current		\$	4.550	0							
		F	Harvest		\$	5.8	0							
		F	Basis		\$	0.2	0							
		(Contract	Offer	\$	4.7	0	What if I'm wrong						
Acres				25										
bu/acre				200	1			4.74/bu						
est. produ	uction, bu			5,000										
pre-harvest mkt				1.00										
pre harvest bushels			5,000		-		-							
contract s				5,000										
contracts	a construction of the		1.0		3									
contract n			December		1.22	Options exp		8	11/26/2021	1 Contract exp	12/14/2021			
Hedging with			Decen	Jecember		ons cap		11/20/202		contract exp	12/14/2021			
	Pre-delivery													
		Sell Futures	1	1	Decemi	ber	Ċ		\$4.55000					
	At delivery	Dury Enturor	-	-	Decemb		c		ČE 90					
	(Buy Futures Profit(loss)		1	Decemb	er	L		\$5.80 (\$1.25000)		(\$6,250.00)			
			\$50/con	tract)					(\$1.25000)		(\$50.00)			
			mission (\$50/contract) profit (loss) from hedge								(\$6,300.00)			
		Basis at deliv	very	1.1.1.1.1.1.1.1.1.1.1.1.1.1.1.1.1.1.1.				- ¢	\$0.2000					
	<u> </u>	Sell		5,000	bushels	<u>i</u>	-		\$6.00		\$30,000.00			
	į	Net grain sa									\$23,700.00			
	1	Average pric	e per bush	iel							\$4.7400			

Hedging Calculator



Put: right to sell; Call right to buy Basic Option Strategies





Put: right to sell; Call right to buy



Buying Put Options

- Effectively creates a minimum price contract
- Never the most profitable strategy
- Limits losses if prices go down
- Gains are unlimited if prices go up
- Expensive



Corn Example

- Situation:
 - You are a corn farmer who wants protection in case prices fall by harvest
- Strategy:
 - Buy a December put option



Determine Expected Selling Price; December corn is trading at 455 per bushel

Strike Prices	Put Premiums
410	19.750
420	24.250
430	29.375
440	34.875
450	40.625
460	46.875



Determine Expected Selling Price

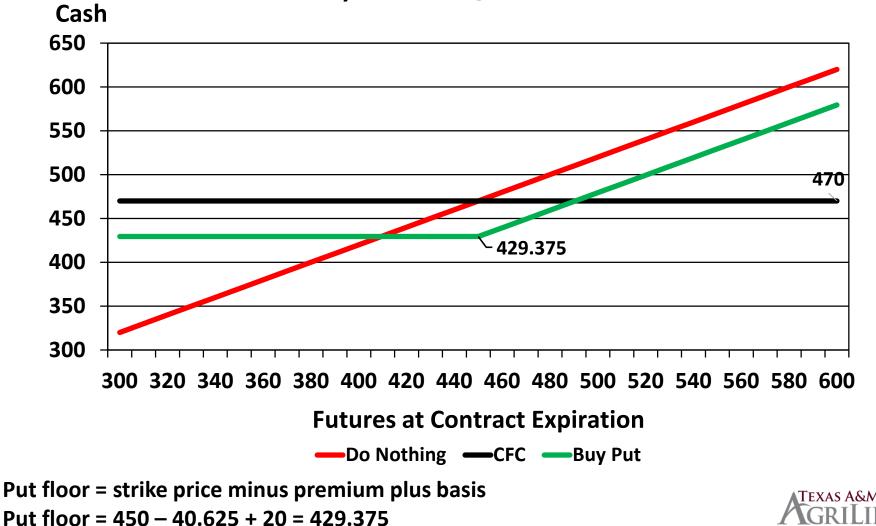
Select Appropriate Futures Contract Month	December					
Select Appropriate type of Option	Buy Put (r	Buy Put (right to sell)				
Calculate Minimum Selling Price						
Strike price	410	430	450			
Subtract premium	19.750	29.375	40.625			
Adjust for basis	+20	+20	+20			
Minimum price	410.250	420.625	429.375			



Marketing Strategies

Do Nothing, Cash Forward Contract, Buy a Put

Futures @ 455, CFC @ 470, Expected Basis = +20 Buy a 450 Put @ 40.625



EXTENSION

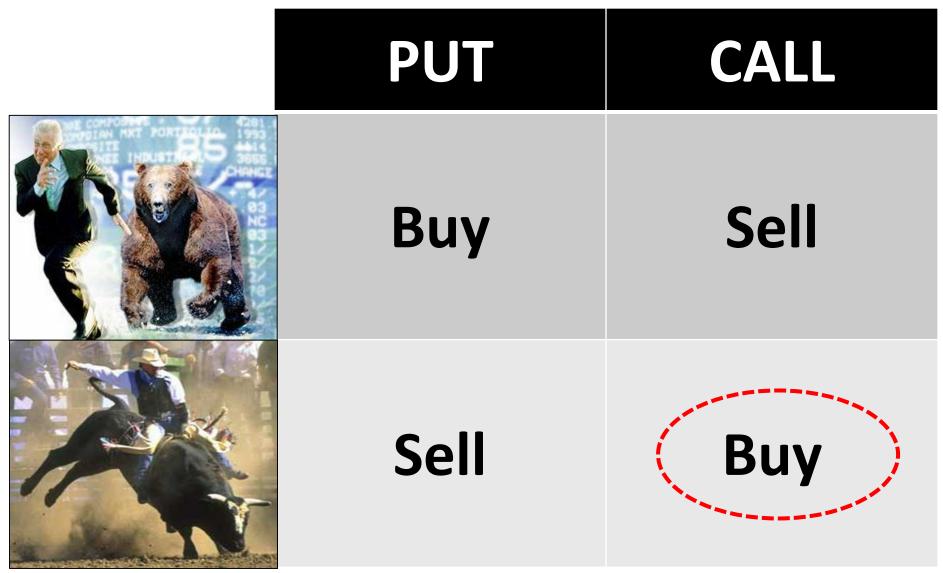
Corn	С			Futur	es		Strike	Pre	emium	
prices in \$/	/bushel	Current	1	\$ 4.5500		At the money put	\$ 4.50) \$	0.40625	
		Harvest		\$	3.80	At the money call	\$ 4.50) \$	0.45625	
		Basis		\$	0.20					
		Contract	Offer	\$	4.70					
Acres			25				M/hat	:5	l'ma nia	h +.
bu/acre			200				vvnat	IT	l'm rig	nt:
est. produc	tion, bu		5,000					•	o /I	
pre-harves	t mkt		1.00				4	.2	8/bu	
pre harvest		5,000								
contract sp	ec, bu		5,000							
			1.0							
contract month December			er	Optio	ns exp	11/26/2023	1 Contract ex	p 1	2/14/2021	
Buying Puts										
	Pre-delivery									
		December	C		trading at		\$4.55000			
		Buy Puts	1	2	Decembe	r C	\$4.50		-\$0.4063	(\$2,031.25)
	At delivery									
		December	С				\$3.80			
		Sell Puts	1		December	Ċ	\$4.50		\$0.7000	\$3,500.00
		Profit(loss)							\$0.2938	\$1,468.75
		Commission (\$5	and the second se							(\$50.00)
		Net profit (loss)	fit (loss) from trade							\$1,418.75
		Basis at delivery					\$0.2000			
		Sell	5,0	00 ^C	bushels		\$4.00000		1	\$20,000.00
		Net grain sales								\$21,418.75
		Average price pe	er bushe	I						\$4.28375



Corn	С		Futu	ires		Strike		Premium			
prices in \$/bushel		Current	\$	4.5500	At the money put	\$	4.50	\$	0.40625		
		Harvest	\$	5.80	At the money call	\$	4.50	\$	0.45625		
		Basis	\$	0.20							
		Contract Offer	\$	4.70	·						
Acres		25	1		Wha	at if	it if I'm wron				
bu/acre		200									
est. producti	ion, bu	5,000				5.58/bu					
pre-harvest r	mkt	1.00		-							
pre harvest b	bushels	5,000									
contract spe	c, bu	5,000									
contracts to	hedge	1.0									
contract month December			Opti	ons exp	11/26/202	1 Contra	act exp	1	2/14/2021		

uying Puts								
	Pre-delivery							
		December	C	trading at		\$4.55000		
		Buy Puts	1	December	c	\$4.50	-\$0.4063	(\$2,031.25)
	At delivery							
		December	C			\$5.80		
		Sell Puts	1	December	c	\$4.50	\$0.0000	\$0.00
		Profit(loss)					-\$0.4063	(\$2,031.25)
		Commission (\$5	50/contract)					(\$50.00)
		Net profit (loss)	from trade					(\$2,081.25)
		Basis at delivery	,			\$0.2000		
		Sell	5,000	bushels		\$6.00000		\$30,000.00
		Net grain sales						\$27,918.75
		Average price p	er bushel					\$5.58375
								ATEXAS A& GRILI EXTEN

Put: right to sell; Call right to buy Basic Option Strategies





Put: right to sell; Call: right to buy

Call Option Example

Underlying commodity: Pizza

Strike Price: \$10.99

Expiration Date: when the coupon expires

Premium: free

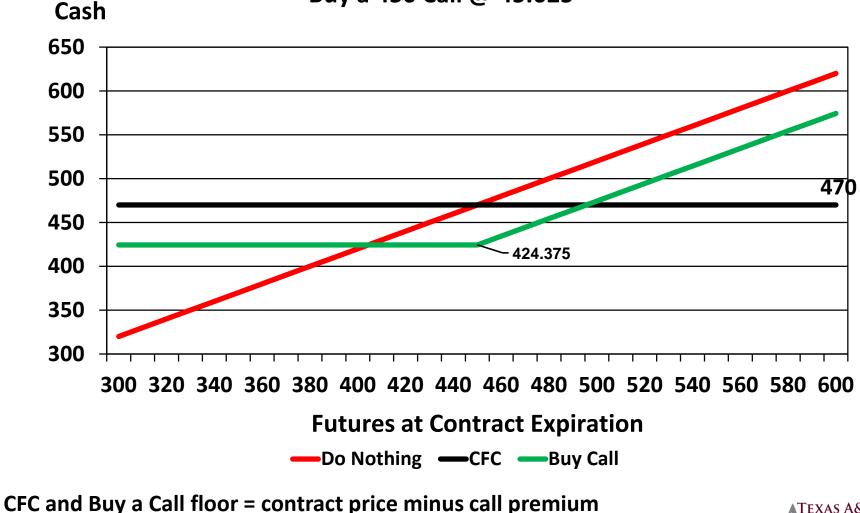


EXTENSION

Marketing Strategies

Do Nothing, Cash Forward Contract, CFC and Buy a Call

Futures @ 455, CFC @ 470, Expected Basis = +20 Buy a 450 Call @ 45.625



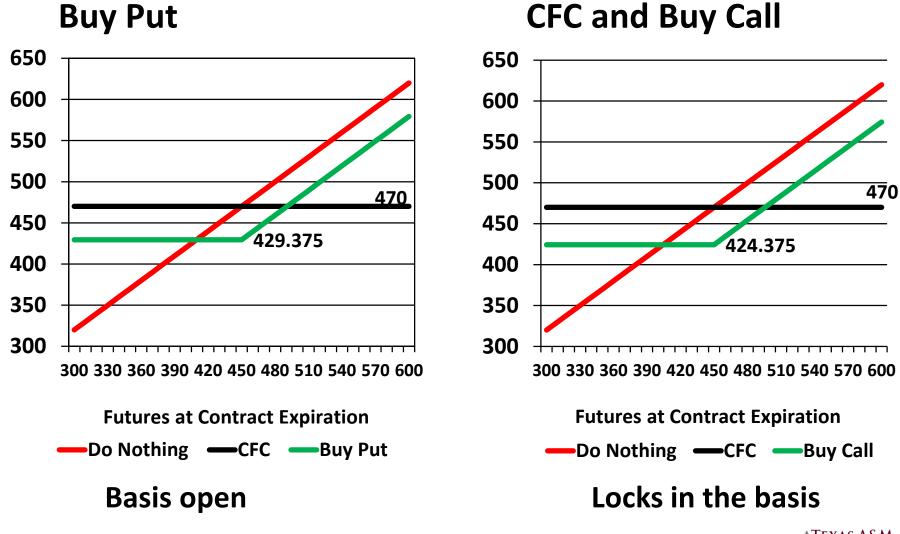
CFC and Buy a Call floor = 470 - 45.625 = 424.375



Corn	C			Future	S		Str	ike	Premium		
prices in \$	bushel	Current		\$	4.5500	At the money	put \$	4.50	\$ 0.40625		
		Harvest		\$	3.80	At the money	call \$	4.50	\$ 0.45625		
		Basis		\$	0.20						
		Contract Of	ffer	\$	4.70		•		• • • • •	• •	•
Acres			25			0	V	vnat	: if l'm	rign	τ:
bu/acre			200							•	
est. produ	uction, bu		000					Δ	.23/k		
pre-harvest mkt 1.00								·· Z J/ K			
pre harvest bushels 5,000					-						
			-		-						
contracts to hedge 1.0			o		44/24	12024		42/44/2024			
contract month December			Option	is exp	11/20	11/26/2021 Contract exp 12/14/2021					
Cash Forwa	ard Contract and	d Buy a Call			_						
	Pre-delivery				20.500				20		
		December	C		trading	gat		\$4.5500			
		Cash forward co	ntact	toffer				\$4.700			
		Implied basis						\$0.150			
		CFC		5,000	bushe			\$4.700			\$23,500.00
		Buy Calls		1	Decer	mber C		\$4.5	0	-\$0.4563	(\$2,281.25)
	At delivery		c			1.000 C		<u> </u>			
			C		trading		1	\$3.8		to 0000	A0 0 0
		Sell Calls		1	Decer	mber C		\$4.5	0	\$0.0000	\$0.00
		Profit(loss)	- 1	a	_					-\$0.4563	(\$2,281.25)
		Commission (\$5									(\$50.00)
		Net profit (loss)	et profit (loss) from tr								(\$2,331.25)
		Basis at delivery						\$0.2	0		
		Sell		0	bushe	els		\$4.0			\$0.00
		Sell		5,000	bushe	a part a		\$4.700			\$23,500.00
		Net grain sales								1	\$21,168.75
		Average price pe	er bus	shel			¢				\$4.23375

Corn	С			Futures	5			Strike	Pre	emium						
prices in \$/b	ushel	Current		\$ 4	4.5500	At the money put	t	\$ 4.50	\$	0.40625						
		Harvest		\$	5.80	At the money cal	Ĺ	\$ 4.50	\$	0.45625						
		Basis		\$	0.20											
		Contract O	ffer	\$	4.70	14	1 L	-T :T I	/							
Acres			25			VV VV	n	at if I	ſ	n wr	ong:					
bu/acre			200							/1	_					
est. producti	on, bu	5	,000			5.53/bu										
	pre-harvest mkt 1.00															
pre harvest b	5	,000														
contract spec			,000													
			1.0													
contracts to neage 1.0 contract month December		Option	s evn	11/26/20	21	Contract exp	1	2/14/2021								
Cash Forward				option	SCAP	11/20/20	21	contract exp	1.	2/14/2021						
	Pre-delivery	and a set of the set o														
		December	Ċ		trading	at		\$4.55000)							
		Cash forward co	ntact	offer				\$4.7000	0							
		Implied basis						\$0.1500	0							
		CFC	5	5,000	bushel			\$4.7000)			\$23,500.00				
		Buy Calls	·	1	Decem	nber C		\$4.50	0		-\$0.4563	(\$2,281.25)				
	At delivery								_							
		December	C		trading			\$5.80								
		Sell Calls		1	Decem	nber C		\$4.50)		\$1.3000	\$6,500.00				
		Profit(loss)			-						\$0.8438	\$4,218.75				
		Commission (\$5							_			(\$50.00)				
		Net profit (loss)	from	trade					+			\$4,168.75				
		Basis at delivery	6					\$0.20	0							
		Sell		0	bushel	s		\$6.00	0			\$0.00				
		Sell	5	5,000	bushel	s		\$4.7000)			\$23,500.00				
		Net grain sales									1	\$27,668.75				
		Average price p	er bus	hel								\$5.53375				

Establish a Price Floor



TEXAS A&M GRILIFE EXTENSION

Factors to be Considered when Buying Options

- Buyer must decide strike price/premium
- Buyer must decide whether or not to exercise



Buying Put Options

- Effectively creates a minimum price contract
- Never the most profitable strategy
- Limits losses if prices go down
- Gains are unlimited if prices go up
- Expensive



Futures or Options?

- Use options in markets likely to be characterized by large and sustained price moves
- Use options when there will be problems in arranging financing for a margin line
- Use options when the ability to manage a selective hedging program is questionable





Mark Welch, Extension Economist—Grain Marketing JMWelch@tamu.edu (979)845-8011

