(Lecture notes for the Week 4 First Session, Monday, 3/3/14)

Introductory Pricing/Marketing Workshop for Grains, On-Line

Sponsored by MSUE and Michigan CORN

Possible Road Trip to tour CME GROUP

Description and interest

Review

Old Crop Corn Decision from last session

Continue with

Old Crop Soybean Pricing Alternatives and Decisions, up and down examples

New

New Crop Corn Pricing Alternatives and Decisions, up and down examples

Next and Last Session

Looking at where we are new and old crops and the present market situation. How do we decide?

Road Trip to tour CME GROUP Tuesday, August 12, 2014

As the world grain and other commodity markets all utilize the CME GROUP it is the clearing house for commodity trading. Our hope is to take a close look at this institution in the agricultural pricing system.

The group would take an Indian Trails charter bus to travel to Chicago, Ill. @ 7 a.m. Arrive at the CME spending some time on the observation deck to view trading at 12 noon USDA crop report or the close. We will have a Box lunch with a member of CME Group - presentation to the group in the CME meeting room. Tour other firms and presentation and take in some Chicago sites. Group will stay the evening at hotel in the Chicago area. Wednesday, August 13. Tour grain facility and/or Chicago shipping canal (Asian carp) Corp of Engineers and/or Kraft Headquarters /or other food processor. Return home.

If you are interested in taking part in this tour we need your contact information. This reservation, rather only expressing interest in potential participation.	is <u>not</u> a
Name:	
Email:	
Phone:	
County:	
Send this information to:	
Dennis Stein @ steind@msu.edu	
Or Fax to 989-673-5953 Attn: Dennis Stein	

Forward Pricing Alternatives for ______(crop) in Storage

Date	Cash Marke	t	Hedge/Hedge-te	o-Arrive	Put Options (N	Ainimum Price	e HTA)	Call Options	(Minimum	Price)
	Current Price	1.]							
	Forward Contract Price for	1.	(Futures Month)	(Sell)	(Futures Month) Strike Price			(Futures Month) Strike Price		
	(Date)		Less:		Less:			Cash Sale		
	Less Storage Costs		Expected Basis		Expected Basis			Forward Contract		-
	Equals Net Price From Forward Contract	2.	Storage Costs		Storage Costs			Less: Storage Costs		
	Net Government Loan		Brokerage Costs		Brokerage Costs			Brokerage Costs		
	Rate	3.			Option Premium			Option Premium		
	Basis Contract Relative									
	to(Date)		Equals Net Price Expected from		Equals Minimum Selling Price			Equals Minimum Selling Price		
	Expected Cash Price for		Hedge		Expected			Expected		
	(Date) Optimistic									
	Average Pessimistic									
	Cash Price		(Futures Month)	(Buy)	(Futures Month)			(Futures Month)		
	Less Storage Costs			(Buy)	(Tutures Month)					
	Equals Net Price from Cash Sale	4.	Actual Basis		Option Premium	(Sell)	(Sell)	Option Premium	(Sell)	(Sell)
	Net Price from Basis				Intrinsic Value			Intrinsic Value		
	Contract = Futures today+ Basis Contract	5.			Time Value			Time Value		
Cash	Price on(Date)				Cash Price			Cash Sale/Forward Contract Price		
Plus S	Sell and Buy Futures			<u>-</u> .	Plus Buy and Sell Options			Plus Buy and Sell Options		
Less:	age Costs				Less: Storage Costs			Less: Storage Costs		
	terage Costs			-	Brokerage Costs			Brokerage Costs		
Equals	Net Returns	•••			Equals Net Returns			Equals Net Returns		
Equals 1	Net Price Received			6.	Equals Net Price Received	7.	8.	Equals Net Price Received	9.	10.

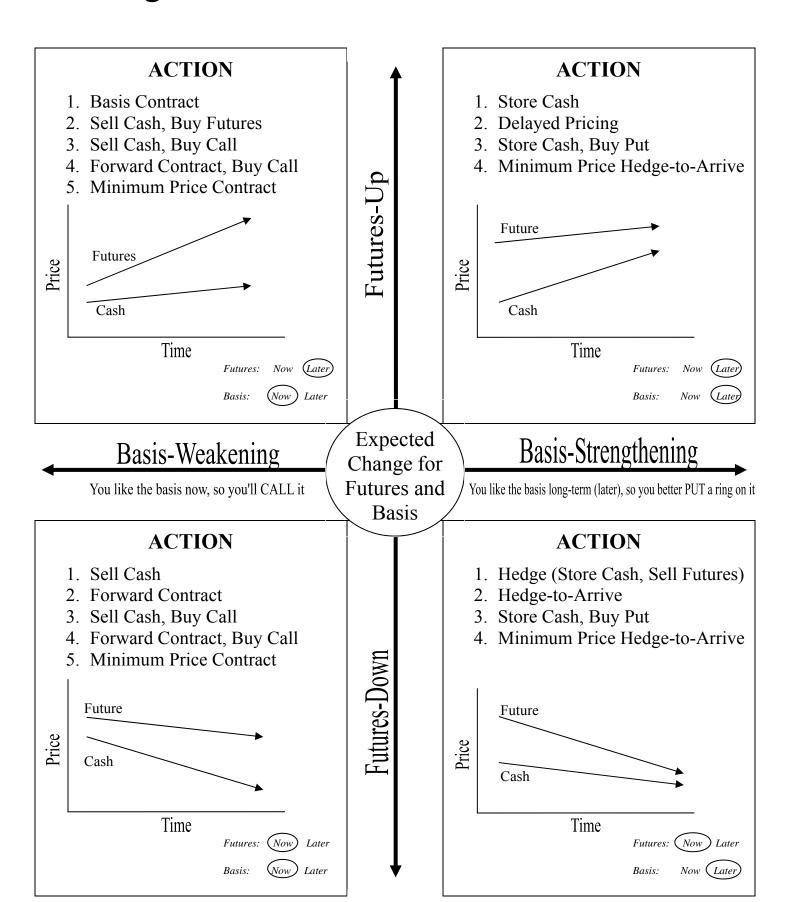
July 2014 Corn Futures

Table 1. Probability Futures Price @ Maturity Will Be Less Than Stated Value

Probability	Price
10%	\$3.91
20%	\$4.15
25%	\$4.24
30%	\$4.32
40%	\$4.47
50%	\$4.63
60%	\$4.78
70%	\$4.95
75%	\$5.05
80%	\$5.16
90%	\$5.46

		Forward P	ricing Alternativ	es for	Corn	(crop) in Sto	oreage			
Date	Cash Market	<u> </u>	Hedge/Hedge To Arı	rive	Put Options (Min	mum Price HTA	A)	Call Options (Mir	nimum Price)	
	Current Price	<u>4.26</u>	July	<u>4.62</u>	July	<u>4.40</u>	<u>4.60</u>	July	<u>4.70</u>	<u>4.70</u>
2/24/2013	Forward Contract		Futures Month	Sell	Futures Month	Strike Price	Strike Price	Futures Month	Strike Price	Strike Price
	Price for:	L	ess:					Cash Sale	<u>4.26</u>	
	February 13, 2014	<u>4.37</u>	Expected Basis	<u>-0.20</u>	Expected Basis	<u>-0.20</u>	<u>-0.20</u>	Forward Contract		<u>4.37</u>
	Less Storage Costs Net Price From	<u>-0.08</u>	Storage Costs	<u>-0.08</u>	Storage Costs	<u>-0.08</u>	<u>-0.08</u>	Storage Costs	N/A	<u>-0.08</u>
	Forward Contract	4.29	Brokerage Costs	<u>-0.01</u>	Brokerage Costs	<u>-0.01</u>	<u>-0.01</u>	Brokerage Costs	<u>-0.01</u>	<u>-0.01</u>
	Basis Contract Relative to:		Equals Net Price		Options Premium Equals Minimum	<u>-0.13</u>	<u>-0.22</u>	Options Premium	<u>-0.20</u>	<u>-0.20</u>
	July	-0.36	Expected From		Selling Price			Equals Minimum		
			Hedge	4.33	Expected	3.98	4.09	Selling Price	4.05	4.08

OUTCOMES



July 2014 Soybeans Futures and Options February 28, 2014

July 2014 Soybean Futures \$13.8525 (13.85 1/4)

Cash \$14.09 June Forward Contract \$13.90

July 2014 Soybean Option Premiums

	<u>Calls</u>	<u>Strike</u>	Puts 1	/
	B 94	<u>Prices</u>	Jel	{
	1.22'2	12.80	0.17'2	
	1.07'2	13.00	0.22'2	
	0.93'2	13.20	0.28'1	
	0.80'2	13.40	0.35'1	
	0.68'4	13.60 ~	0.43'3	(.43 3/8)
(.58 ¼)	0.58'2	13.80	0.53'0	(.53)
(.49 1/4)	0.49'2.	14.00	0.64'0	(.64)
	0.41'4	14.20	0.76'1	
	0.34'6	14.40	0.89'3	
	0.29'0	14.60	1.03'4	
	0.24'1	14.80	1.18'5	

Forward Pricing Alternatives for ______(crop) in Storage

Date	Cash Marke	t	Hedge/Hedge-te	o-Arrive	Put Options (N	Ainimum Price	e HTA)	Call Options	(Minimum	Price)
	Current Price	1.]							
	Forward Contract Price for	1.	(Futures Month)	(Sell)	(Futures Month) Strike Price			(Futures Month) Strike Price		
	(Date)		Less:		Less:			Cash Sale		
	Less Storage Costs		Expected Basis		Expected Basis			Forward Contract		-
	Equals Net Price From Forward Contract	2.	Storage Costs		Storage Costs			Less: Storage Costs		
	Net Government Loan		Brokerage Costs		Brokerage Costs			Brokerage Costs		
	Rate	3.			Option Premium			Option Premium		
	Basis Contract Relative									
	to(Date)		Equals Net Price Expected from		Equals Minimum Selling Price			Equals Minimum Selling Price		
	Expected Cash Price for		Hedge		Expected			Expected		
	(Date) Optimistic									
	Average Pessimistic									
	Cash Price		(Futures Month)	(Buy)	(Futures Month)			(Futures Month)		
	Less Storage Costs			(Buy)	(Tutures Month)					
	Equals Net Price from Cash Sale	4.	Actual Basis		Option Premium	(Sell)	(Sell)	Option Premium	(Sell)	(Sell)
	Net Price from Basis				Intrinsic Value			Intrinsic Value		
	Contract = Futures today+ Basis Contract	5.			Time Value			Time Value		
Cash	Price on(Date)				Cash Price			Cash Sale/Forward Contract Price		
Plus S	Sell and Buy Futures			<u>-</u> .	Plus Buy and Sell Options			Plus Buy and Sell Options		
Less:	age Costs				Less: Storage Costs			Less: Storage Costs		
	terage Costs			-	Brokerage Costs			Brokerage Costs		
Equals	Net Returns	•••			Equals Net Returns			Equals Net Returns		
Equals 1	Net Price Received			6.	Equals Net Price Received	7.	8.	Equals Net Price Received	9.	10.

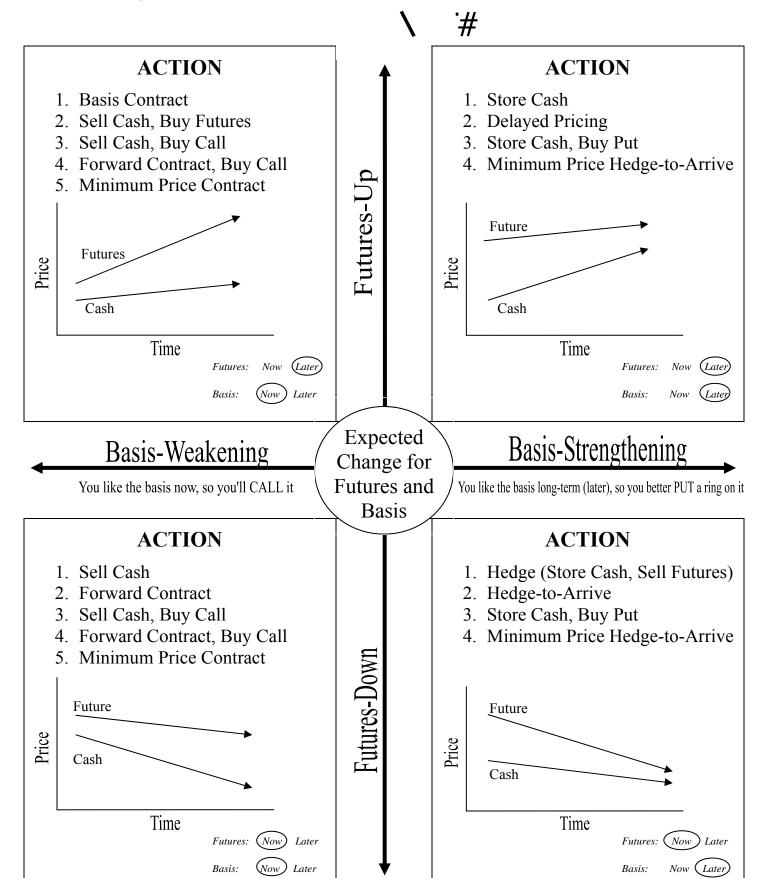
		Forwai	rd Pricing Alternat	tives for	Soxbe	24	_(crop) in S	Storage		
Date	Cash Marko	et	Hedge/Hedge-t	o-Arrive	Put Options (Minimum Pric	e HTA)	Call Options	s (Minimum P	rice)
728,	Current Price	1.14.09	(Futures Month)	13.85°	(Futures Month)	_	. 2 04	(Futures Month)	_	111.00
-/14	Forward Contract Price for(Date)	13.90	•		Strike Price Less:	<u> 13.60.</u>	/ 5 , PO	Strike Price Cash Sale	14.00 14.09	14.00
	Less Storage Costs	-20	Less: Expected Basis	0,00	Expected Basis	0.00	0.00	Forward Contract	1 1151	13.90
	Equals Net Price From Forward Contract	2.13.70	Storage Costs	$\frac{-120}{01}$	Storage Costs	<u>-,20</u>	$\frac{-120}{-0.1}$	Less: Storage Costs		-,20
	Net Government Loan Rate	3	Brokerage Costs	2.01	Brokerage Costs Option Premium	-,43	<u>-,01</u> <u>-,53</u>	Brokerage Costs Option Premium	0(<u>-0(</u> 49
	Basis Contract Relative to(Date) Expected Cash Price for	+,24	Equals Net Price Expected from Hedge	13.64	Equals Minimum Selling Price Expected	12.99	13.06	· 1	1359	13.20
	(Date) Optimistic Average Pessimistic				Priz	e 7	,	4.58	1.11	
915	Cash Price Less Storage Costs	<u> 15.00</u> 20	(Futures Month)	(Buy)	(Futures Month)	4,01		(Futures Month)	/1/	166
114	Equals Net Price from Cash Sale	4.14.84	Actual Basis	-, 10	Option Premium	(Sell)	+, 0 \ (Sell)	Option Premium	(Sell)	(Sell)
	Net Price from Basis Contract = Futures	5./5.34			Intrinsic Value	0.00	0.00	Intrinsic Value	1.10	1.10
Cash	today+ Basis Contract (5.)0+.241u	۱۳۰۵/		15.00	Time Value Cash Price	15.00	15.00	Time Value Cash Sale/Forward	14.09	13.90
	(Date) Sell and Buy Futures		-1.25.	10.00	Plus Buy and Sell Options	42		Contract Price Plus Buy and Sell Options	:62	.62
Less	s: rage Costs		20	_	Less: Storage Costs	- ,20	20	Less: Storage Costs		-, w
Bro	kerage Costs	***	0)		Brokerage Costs	_,01	01	Brokerage Costs	<u>01</u>	•.01
Equals	Net Returns			1.46	Equals Net Returns	63	73	Equals Net Returns	+161	+41
Equals	Net Price Received			6.13.54	Equals Net Price Received	7.14.37	814625	Equals Net Price Received	9.1 4. X	10/43

D-4-	Cook Montos		ricing Alternativ		Soybean	(crop) in Sto	•	Call Outions (84)	oinous Buisal	
Date	Cash Market Current Price	14.09	Hedge/Hedge To Arr July	13.85	Put Options (Mini	13.60	13.80	Call Options (Mir	14.00	14.00
2/28/2014	Forward Contract Price for:		Futures Month Less:	Sell	Futures Month	Strike Price	Strike Price	Futures Month Cash Sale	Strike Price 14.09	
	June 15, 2014	<u>13.90</u>	Expected Basis	<u>0.00</u>	Expected Basis	0.00	0.00	Forward Contract		<u>13.90</u>
	Less Storage Costs Net Price From	<u>-0.20</u>	Storage Costs	<u>-0.20</u>	Storage Costs	<u>-0.20</u>	<u>-0.20</u>	Storage Costs	N/A	<u>-0.20</u>
	Forward Contract	13.70	Brokerage Costs	<u>-0.01</u>	Brokerage Costs	<u>-0.01</u>	<u>-0.01</u>	Brokerage Costs	<u>-0.01</u>	<u>-0.01</u>
	Basis Contract Relative to:		Equals Net Price		Options Premium Equals Minimum	<u>-0.43</u>	<u>-0.53</u>	Options Premium	<u>-0.49</u>	<u>-0.49</u>
	July	0.24	Expected From		Selling Price			Equals Minimum		
			Hedge	13.64	Expected	12.96	13.06	Selling Price	13.59	13.20
					OUTCOMES	Prices Up				
6/15/2014	Cash Price	<u>15.00</u>	July	<u>15.10</u>	July			July		
		0.00	Futures Month	0.40	Futures Month	0.04	2.24	Futures Month		
	Less Storage Costs Equals Net Price	<u>-0.20</u>	Actual Basis	-0.10	Options Premium	0.01	0.01	Options Premium	1.11	1.11
	From Cash Sale Net Price From	14.80			Intrinsic Value Time Value		0.00 0.01	Intrinsic Value Time Value	1.10 0.01	1.10 0.01
	Basis Contract	15.34			Time value	0.01			0.01	0.01
	Cash Price On	06/15/14		15.00		15.00		Cash Sale/ Forward Contract	14.09	13.90
	Gasii i iice Gii	00/13/11			Plus Buy and	13.00		Plus Buy and	11105	13.50
	Sell and Buy Futures Less:		<u>-1.25</u>		Sell Options	<u>-0.42</u>	<u>-0.52</u>	Sell Options	0.62	0.62
	Storeage Costs	;	-0.20		Storeage Costs	-0.20	-0.20	Storeage Costs	N/A	-0.20
	Brokerage Costs	i	<u>-0.01</u>		Brokerage Costs	<u>-0.01</u>	<u>-0.01</u>	Brokerage Costs	-0.01	-0.01
	Equals Net Return			<u>-1.46</u>	Equals Net Return	<u>-0.63</u>	<u>-0.73</u>	Equals Net Return	0.61	0.41
	Equals Net Price Receiv	ved		13.54		14.37	14.27		14.70	14.31

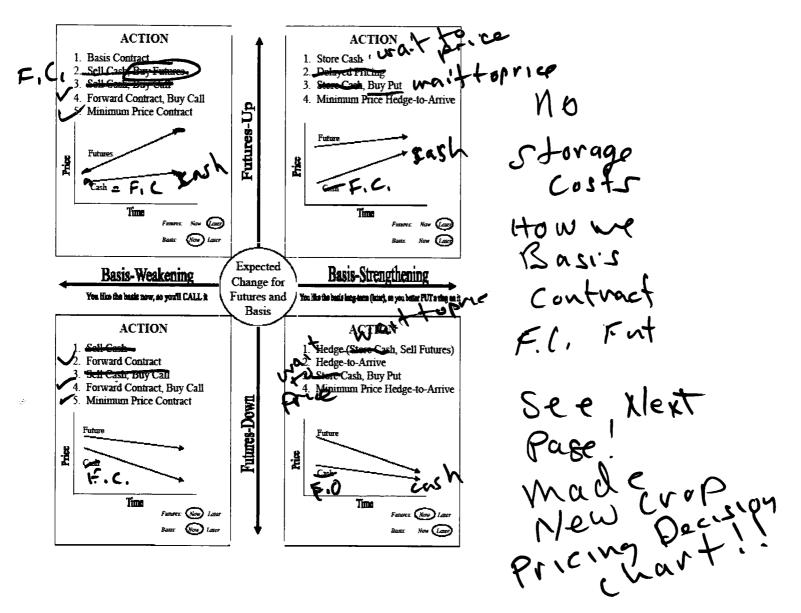
Forward Pricing Alternatives for (crop) in Storage Soybeans **Call Options (Minimum Price)** Cash Market Hedge/Hedge-to-Arrive **Put Options (Minimum Price HTA)** Date Current Price July July July 1. \$14.09 2/28 (Futures Month) (Futures Month) (Futures Month) (Sell) Forward Contract Price Strike Price 13.60 13.70 Strike Price 14.00 14.00 13.90 for June (Date) 14.09 Cash Sale Less: Less: **Expected Basis** 0.00 Less Storage Costs **Expected Basis** 0.00 13.90 -.20 0.00 Forward Contract Less: Equals Net Price From **Storage Costs** -0.20Storage Costs -.020 -.0202. 13.70 **Storage Costs** Forward Contract -.020 -0.01-0.01 -0.01**Brokerage Costs Brokerage Costs** -0.01 -0.01**Brokerage Costs** Net Government Loan -.043 -.053 3.5.00 Rate **Option Premium** -.49 -.49 **Option Premium** +.24**Basis Contract Relative** July **Equals Net Price Equals Minimum Equals Minimum** (Date) Selling Price Expected from Selling Price 13.64 13.06 13.20 **Expected Cash Price** Hedge Expected **Expected** for (Date) Optimistic Average Pessimistic Cash Price (Futures Month) (Futures Month) (Futures Month) (Buy) Less Storage Costs Equals Net Price from **Option Premium Option Premium Actual Basis** 4. Cash Sale (Sell) (Sell) (Sell) (Sell) Net Price from Basis Intrinsic Value Intrinsic Value Contract = Futures 5. today+ Basis Contract Time Value Time Value Cash Sale/Forward Cash Price on Cash Price **Contract Price** (Date) Plus Buy and Sell Plus Buy and Sell Plus Sell and Buy Futures Options Options Less: Less: Less: Storage Costs Storage Costs Storage Costs **Brokerage Costs Brokerage Costs Brokerage Costs Equals Net Returns** Equals Net Returns Equals Net Returns 6. 10. Equals Net Price Received Equals Net Price Received Equals Net Price Received

Forward Pricing Alternatives for					Soybeans	(cr	op) in Stora	ge		
Date	Cash Marke	t	Hedge/Hedge-te	-Arrive	Put Options (I	Minimum Pric	e HTA)	Call Options	(Minimum P	rice)
2/28	Current Price Forward Contract Price	1. \$14.09	July(Futures Month)	- 183.PS (Sell)	July (Futures Month) Strike Price	13.60	13:80	July (Futures Month) Strike Price	14.00	14.00
, ,	forJune_ (Date)	13.90	Less:		Less:	4	13.00	Cash Sale	14.09	14.00
	Less Storage Costs	20	Expected Basis	0.00	Expected Basis	0.00	0.00	Forward Contract		13.90
	Equals Net Price From Forward Contract	2. 13.70	Storage Costs	-0.20	Storage Costs	020	020	Less: Storage Costs		020
	Net Government Loan	757	Brokerage Costs	-0.01	Brokerage Costs	043	-0.01	Brokerage Costs	-0.01	-0.01
	Rate Basis Contract Relative	3. 5.00			Option Premium	043	053	Option Premium	-264	964
	toJuly(Date) Expected Cash Price	+.24	Equals Net Price Expected from Hedge	13,64	Equals Minimum Selling Price Expected	12.96	13.06	Equals Minimum Selling Price Expected	- 44°	1.3.20
	(Date) Optimistic Average Pessimistic				Prì	Ces 1	1		•	•
1	Cash Price Less Storage Costs	11.90 -,20	(Futures Month)	12.00 (Buy)	(Futures Month)		-	(Futures Month)		
	Equals Net Price from Cash Sale	4.//. 70	Actual Basis	10	Option Premium	1.6L	1.81 (Sell)	Option Premium	, O (, 6 1
	Net Price from Basis Contract = Futures				Intrinsic Value	1.60	1.80	Intrinsic Value	(Sell)	(Sell)
	today+ Basis Contract	5. 12.24			Time Value	.01	.0/	Time Value	.01	.61
Cash F	Price on (Date)	<u></u>		11.90	Cash Price	11.90	11.90	Cash Sale/Forward Contract Price	14.09	13.90
	ell and Buy Futures		+1.85.		Plus Buy and Sell Options	1,18	1.28	Plus Buy and Sell Options	-263	
Less: Storag	ge Costs		<u> </u>	•	Less: Storage Costs	-120	-, 20	Less: Storage Costs		-120
Broke	rage Costs	••••	_ 101	•	Brokerage Costs	01	~01	Brokerage Costs	01	-,0(
Equals N	et Returns		•	1.64	Equals Net Returns	+.97	4.07	Equals Net Returns	-,49	-69
Equals N	et Price Received			6. 13.5	Equals Net Price Received	7. 12-87	8.12.97	Equals Net Price Received	9.1361 1860	10/32/

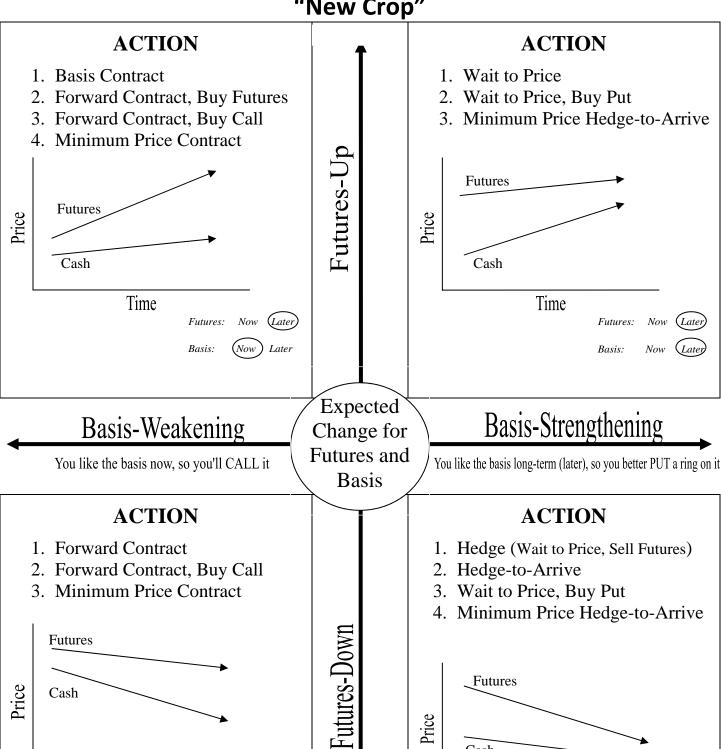
			ricing Alternativ		•	(crop) in Sto	•			
Date	Cash Market		Hedge/Hedge To Ari		Put Options (Mini			Call Options (Mir		
	Current Price	<u>14.09</u>	July	<u>13.85</u>	July	<u>13.60</u>	<u>13.80</u>	July	<u>14.00</u>	<u>14.00</u>
2/28/2014	Forward Contract		Futures Month	Sell	Futures Month	Strike Price	Strike Price	Futures Month		Strike Price
	Price for:		_ess:	0.00	5 . 15 .	0.00		Cash Sale	<u>14.09</u>	12.00
	June 15, 2014	<u>13.90</u>	Expected Basis	0.00	Expected Basis	0.00	0.00	Forward Contract		<u>13.90</u>
	Less Storage Costs Net Price From	<u>-0.20</u>	Storage Costs	<u>-0.20</u>	Storage Costs	<u>-0.20</u>	<u>-0.20</u>	Storage Costs	N/A	<u>-0.20</u>
	Forward Contract	13.70	Brokerage Costs	<u>-0.01</u>	Brokerage Costs	<u>-0.01</u>	<u>-0.01</u>	Brokerage Costs	<u>-0.01</u>	<u>-0.01</u>
	Basis Contract				Options Premium	<u>-0.43</u>	<u>-0.53</u>	Options Premium	<u>-0.49</u>	<u>-0.49</u>
	Relative to:	_	Equals Net Price		Equals Minimum					
	July	0.24	Expected From		Selling Price			Equals Minimum		
			Hedge	13.64	Expected	12.96	13.06	Selling Price	13.59	13.20
					OUTCOMES h)					
6/15/2014	Cash Price	<u>11.90</u>	July	<u>12.00</u>	July			July		
	_		Futures Month		Futures Month			Futures Month		
	Less Storage Costs Equals Net Price	<u>-0.20</u>	Actual Basis	-0.10	Options Premium	1.61	1.81	Options Premium	0.01	0.01
	From Cash Sale	11.70			Intrinsic Value	1.60	1.80	Intrinsic Value	0.00	0.00
	Net Price From				Time Value	0.01	0.01	Time Value	0.01	0.01
	Basis Contract	12.24						Cook Colo/		
	Cash Price On	06/15/14		11.90		11.90		Cash Sale/ Forward Contract	14.09	13.90
	Cash Trice On	00/13/14			Dive Deve and	11.50			14.05	15.50
	Call and Duy Futures		1 0 5		Plus Buy and	1 10		Plus Buy and	0.49	0.49
	Sell and Buy Futures Less:		<u>1.85</u>		Sell Options	<u>1.18</u>	<u>1.28</u>	Sell Options	<u>-0.48</u>	<u>-0.48</u>
	Storeage Costs		<u>-0.20</u>		Storeage Costs	<u>-0.20</u>	<u>-0.20</u>	Storeage Costs	N/A	-0.20
	Brokerage Costs	5	<u>-0.01</u>		Brokerage Costs	<u>-0.01</u>	<u>-0.01</u>	Brokerage Costs	-0.01	-0.01
	Equals Net Return			<u>1.64</u>	Equals Net Return	0.97	<u>1.07</u>	Equals Net Return	<u>-0.49</u>	<u>-0.69</u>
	Equals Net Price Receiv	ved		13.54	I	12.87	12.97	ı	13.60	13.21



YAW Crop Pricing Decision Chart for Cash Product Sellers



"New Crop"



Time

Futures: (Now)

Now

Basis:

Later

Later

Cash

Time

Futures: (Now

Basis:

Now (Later)

December 2014 Corn Futures and Options February 28, 2014

Dec 2014 Corn Futures \$4.715 (4.71 ½)

Fall 14 Delivery Forward Contract \$4.21

Dec 2014 Corn Option Premiums

<u>Calls</u>	<u>Strike</u>	<u>Puts</u>
	<u>Prices</u>	
.66'4	4.20	.15′3
.60'1	4.30	.18′7
.53'7	4.40	.22'5
.48'3	4.50	.27'0
.43'2	4.60	.31′7
.38'5	4.70	.37′7
.34'3	4.80	.42′7
.30′5	4.90	.49'0
.27'1	5.00	.55'4
.24'0	5.10	.62'2
.21′2	5.20	.69'4

Date	Cash Market	Futures	Put Options	Forward Contract and Buy Calls
	Production Cost Forward Contract Price (1) Basis Contract Relative to	(Futures Month) (Sell) Less: Expected Basis ^b Brokerage Costs ^c Equals Net Price Expected From Hedge	(Futures Month) Strike Price Less: Option Premium (Buy) Expected Basish Brokerage Costse Equals Minimum Selling Price Expected	(Futures Month) Strike Price Forward Contract Price Less: Option Premium Brokerage Costs ^c Equals Minimum Selling Price
	Harvest Price (3) Net Price From Basis Contract = Futures + Basis Contract (4)	(Futures Month) (Buy) Actual Basis ^d	(Futures Month) Optimum Premiume (Sell) (Sell)	(Sel1)
Cash Price Plus Net F Sell and Less Brole Equals No	Received From Hedge and Options ce at Harvest Returns From Futures and Options Buy (Futures) or Buy and Sell (Options) Rerage Costs ^c et Returns t Price Received	(5)	(6) (7)	Forward Contract Price

Bottom Half -

^{*}Government loan rate less storage costs to maturity.

The expected value, at harvest, of the cash price less the given futures.

^{*}Commissions and interest on margins or premiums.

The actual value, at harvest, of the cash price less the given futures.

							
Date	Cash Market	Futures			ptions	Forward Contract and Buy Calls	
2/28	Production Cost \$_7.50	Dec (Futures Honth)	(Sel1)	(Futures Honth)		(Futures Month)	
1/14	Forward Contract Price (1) 7 2/2() Basis Contract Relative	Less: Expected Basis ^b	45	Strike Price	4.60 4. >0	Strike Price	4.20
	to (Futures Month)	Brokerage Costs ^c	01	Less: Option Premium	- 32 - 38 (Buy) (Buy)	Forward Contract Price	4.21
	Net Government Loan Rate (2)	Equals Net Price Expected From	1.25	Expected Basis ^b	-,45-,45	Less: Option Premium	<u>39</u> .
	Expected Harvest Price Optimistic	Hedge	-	Brokerage Costs ^c	-101-101	Brokerage Costs ^c	-101
	Average Pessimistic	Price	EN	Equals Minimum Selling Price Expected	3.PZ 3.PE	Equals Minimum Selling Price	3.81
Dot	Harvest Price (3) 3.25	(Futures Month)	3180 (Buỷ)	Pe C (Futures Month)	Į.	7.1	٥,
15	Net Price From Basis Contract = Futures + Basis Contract (4)	Actual Basis	<u>-, 55</u>	Optimum Premium ^e	(Sel1) (Sel1)		(Sel1)
	Received From Hedge and Options ce at Harvest		3.25		3.25 3.25	Forward Contract Price	4.24
Plus Net	Returns From Futures and Options Buy (Futures) or Buy and Sell (Options)	+.91		+149	+55	#-38	•
Less Bro	kerage Costs ^e et Returns	=-0)	7.9V	<u> </u>	+44 +77		39
Equals Ne	t Price Received	(5)	पार्छ		3.73 3.77 (6) (2)	· (8)	34
		<u></u>		<u></u>			

*Government loan rate less storage costs to maturity.

Commissions and interest on margins or premiums.

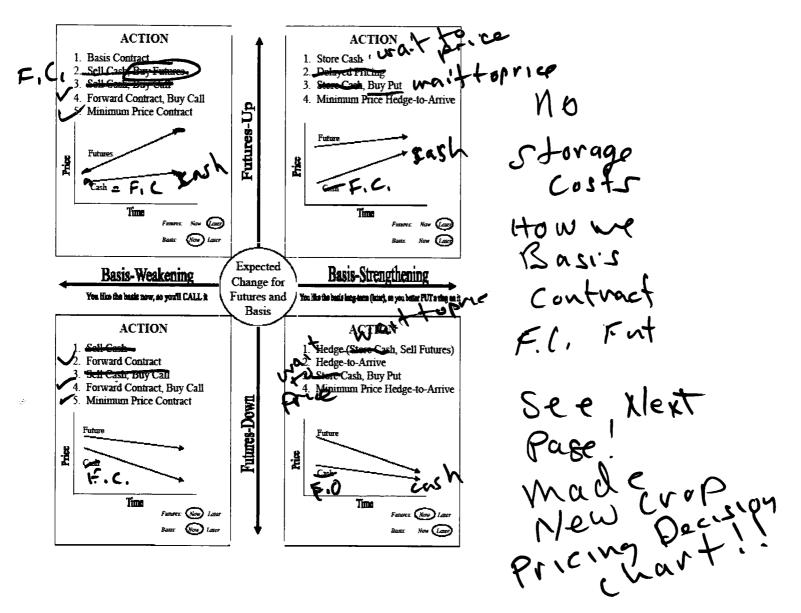
Bottom Half A

The expected value, at harvest, of the cash price less the given futures.

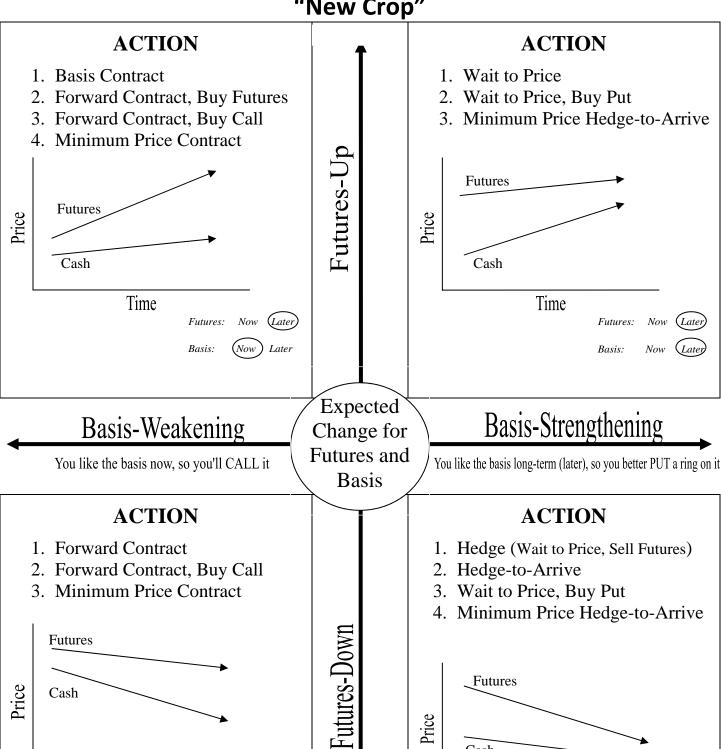
The actual value, at harvest, of the cash price less the given futures.

		Forward Pricing Alternatives for New Crop		Corn						
Date	Cash Market	Hedge/Hedge To Arrive		Put Options (Minimum Price HTA)		١)	Call Options (Min		nimum Price)	
	Production Costs	<u>4.50</u>	December	<u>4.71</u>	December	<u>4.60</u>	<u>4.70</u>	December	<u>4.70</u>	<u>4.80</u>
2/28/2014	Forward Contract Price for:		Futures Month Less:	Sell	Futures Month	Strike Price	Strike Price	Futures Month	Strike Price	Strike Price
	October 15, 2014	<u>4.21</u>	Expected Basis	<u>-0.45</u>	Expected Basis	<u>-0.45</u>	<u>-0.45</u>	Forward Contract	<u>4.21</u>	<u>4.21</u>
	Basis Contract Relative to:		Brokerage Costs	<u>-0.01</u>	Brokerage Costs	<u>-0.01</u>	<u>-0.01</u>	Brokerage Costs	<u>-0.01</u>	<u>-0.01</u>
	December	-0.50			Options Premium	<u>-0.32</u>	<u>-0.38</u>	Options Premium	<u>-0.39</u>	<u>-0.34</u>
			Equals Net Price		Equals Minimum					
			Expected From		Selling Price			Equals Minimum		
			Hedge	4.25	Expected	3.82	3.86	Selling Price	3.81	3.86
					OUTCOMES					
10/15/2014	Harvest Price	<u>3.25</u>		3.80	December			December		
			Futures Month		Futures Month			Futures Month		
	Net Price From		Actual Basis	-0.55	Options Premium	0.81	0.91	Options Premium	0.01	0.01
	Basis Contract	3.30			Intrinsic Value	0.80	0.90	Intrinsic Value	0.00	0.00
					Time Value	0.01	0.01	Time Value	0.01	0.01
								Cash Sale/		
	Cash Price On	10/15/14 3.25		Plus Buy and	<u>3.25</u>	3.25	Forward Contract Plus Buy and	<u>4.21</u>	<u>4.21</u>	
	Sell and Buy Futures 0.91 Less:			Sell Options	0.49	0.53	Sell Options	<u>-0.38</u>	<u>-0.33</u>	
	Brokerage Costs		<u>-0.01</u>	<u>-0.01</u>		<u>-0.01</u>	<u>-0.01</u>	Brokerage Costs	-0.01	-0.01
	Equals Net Return		<u>0.90</u> E		Equals Net Return	0.48	0.52	Equals Net Return	<u>-0.39</u>	<u>-0.34</u>
	Equals Net Price Received			4.15		3.73	3.77		3.82	3.87

YAW Crop Pricing Decision Chart for Cash Product Sellers



"New Crop"



Time

Futures: (Now)

Now

Basis:

Later

Later

Cash

Time

Futures: (Now

Basis:

Now (Later)

Date	Cash Market	Futures	Put Options	Forward Contract and Buy Calls	
	Production Cost Forward Contract Price (1) Basis Contract Relative to	(Futures Month) (Sell) Less: Expected Basis ^b Brokerage Costs ^c Equals Net Price Expected From Hedge	(Futures Month) Strike Price Less: Option Premium (Buy) Expected Basish Brokerage Costse Equals Minimum Selling Price Expected	(Futures Month) Strike Price Forward Contract Price Less: Option Premium Brokerage Costs ^c Equals Minimum Selling Price	
	Harvest Price (3) Net Price From Basis Contract = Futures + Basis Contract (4)	(Futures Month) (Buy) Actual Basis ^d	(Futures Month) Optimum Premiume (Sell) (Sell)	(Sell)	
Cash Price Plus Net F Sell and Less Brole Equals No	Received From Hedge and Options ce at Harvest Returns From Futures and Options Buy (Futures) or Buy and Sell (Options) Rerage Costs ^c et Returns t Price Received	(5)	(6) (7)	Forward Contract Price	

Bottom Half -

^{*}Government loan rate less storage costs to maturity.

The expected value, at harvest, of the cash price less the given futures.

^{*}Commissions and interest on margins or premiums.

The actual value, at harvest, of the cash price less the given futures.

Date	Cash Hark	et	Futures		Put	Options .	Forward C and Buy	••••
2/_	Production Cost	, 4,50	(Futures Honth)	<u> </u>	(Futures Month)		(Futures Month)	
128	Forward Contract Price	(1) 4,21	Less:	45	Strike Price	4.60 4.70	Strike Price	4.70
/14	Basis Contract Relative to DC (System of Month)	-,50	Expected Basis ^b Brokerage Costs ^c	-,01	Less: -32 -3 Option Premium	-32 -38	Forward Contract Price	4.21
	(Futures Month) Net Government		Equals Net Price		Expected Basis ^b	(Buy) (Buy) ー, リムー, イン	Less: Option Premium	-,39
;	Loan Rate Expected Harvest Price	(2)*	Expected From Hedge	4.25	Brokerage Costs	-101 -101	Brokerage Cost:	- 0/
	Optimistic Average Pessimistic				Equals Minimum Selling Price Expected	3.82 3.86	Equals Minimum Selling Price	3.81
10/_	Harvest Price	(3) C. D6	(Futures Month)	(Buy)	(Futures Month)			
[2]	Net Price From Basis Contract = Futures +		Actual Basis ^d	-,40	Optimum Premium ^e	(Sel1) (Sel1)		(Sel1)
79	Basis Contract	(4) 5.10	05			I.V.= 0		
Net Price Cash Pri	Received From Hedge and ce at Harvest	Options		6.00	·	6.00 6.00	Forward Contrac Price	t 4.2/
Plus Net	Returns From Futures and	Options	-1.69	•	31	37	1.32	
Less Bro	Buy (Futures) or Buy and kerage Costs ^e et Returns	(Sett (operous)	2.01	-1.70	<u> </u>	-135 -31	- (0)	+1.31
•	t Price Received		(5)	4.30		5. 68 5. 42 (6) (7)	·	(8) 5.52
·				4.30	<u> </u>		Bottom	Half -

^{*}Government loan rate less storage costs to maturity.

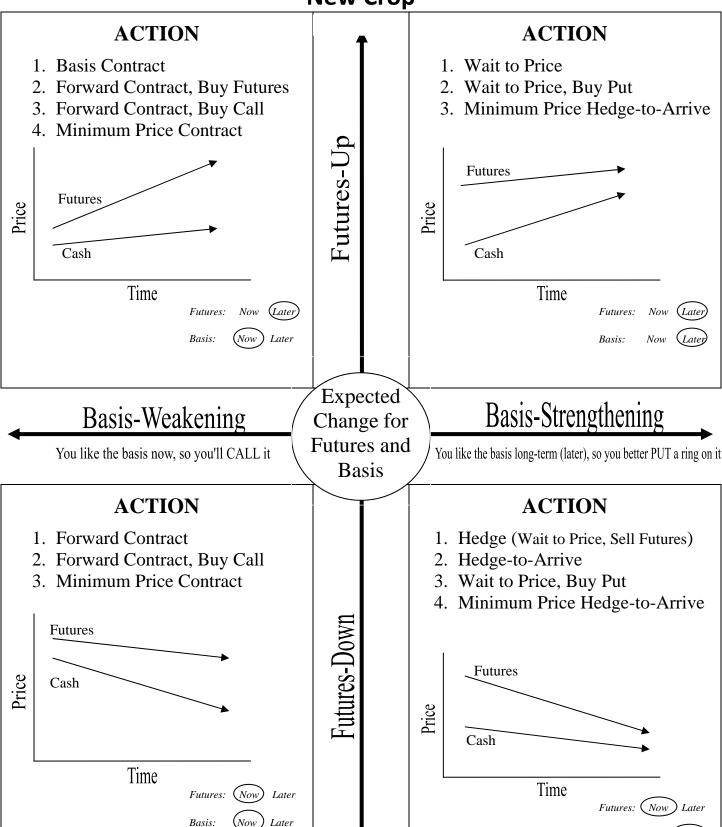
The expected value, at harvest, of the cash price less the given futures.

 $^{{\}it Commissions}$ and interest on margins or premiums.

The actual value, at harvest, of the cash price less the given futures.

		Forward Pricing Alternatives for New Crop			lew Crop	Corn				
Date	Cash Market			Put Options (Minimum Price HTA)			Call Options (Mir	nimum Price)		
	Production Costs	<u>4.50</u>	December	<u>4.71</u>	December	<u>4.60</u>	<u>4.70</u>	December	<u>4.70</u>	<u>4.80</u>
2/28/2014	Forward Contract Price for:		Futures Month Less:	Sell	Futures Month	Strike Price	Strike Price	Futures Month	Strike Price	Strike Price
	October 15, 2014	<u>4.21</u>	Expected Basis	<u>-0.45</u>	Expected Basis	<u>-0.45</u>	<u>-0.45</u>	Forward Contract	<u>4.21</u>	<u>4.21</u>
	Basis Contract Relative to:		Brokerage Costs	<u>-0.01</u>	Brokerage Costs	<u>-0.01</u>	<u>-0.01</u>	Brokerage Costs	<u>-0.01</u>	<u>-0.01</u>
	December	-0.50	Equals Net Price		Options Premium Equals Minimum	<u>-0.32</u>	<u>-0.38</u>	Options Premium	<u>-0.39</u>	<u>-0.34</u>
			Expected From		Selling Price			Equals Minimum		
			Hedge	4.25	Expected	3.82	3.86	Selling Price	3.81	3.86
					OUTCOMES h y					
10/15/2014	Harvest Price	<u>6.00</u>	December	<u>6.40</u>	December			December		
			Futures Month		Futures Month			Futures Month		
	Net Price From		Actual Basis	-0.40	Options Premium	0.01	0.01	Options Premium	1.71	1.61
	Basis Contract	5.90			Intrinsic Value	0.00	0.00	Intrinsic Value	1.70	1.60
	_				Time Value	0.01	0.01	Time Value	0.01	0.01
								Cash Sale/		
	Cash Price On	10/15/14		<u>6.00</u>	Plus Buy and	6.00	6.00	Forward Contract Plus Buy and	<u>4.21</u>	<u>4.21</u>
	Sell and Buy Futures Less:		<u>-1.69</u>		Sell Options	<u>-0.31</u>	<u>-0.37</u>	Sell Options	<u>1.32</u>	<u>1.27</u>
	Brokerage Costs		<u>-0.01</u>		Brokerage Costs	<u>-0.01</u>	<u>-0.01</u>	Brokerage Costs	-0.01	-0.01
	Equals Net Return			<u>-1.70</u>	Equals Net Return	<u>-0.32</u>	<u>-0.38</u>	Equals Net Return	<u>1.31</u>	<u>1.26</u>
	Equals Net Price Received	d		4.30		5.68	5.62		5.52	5.47

"New Crop"



Now (Later)

Basis: