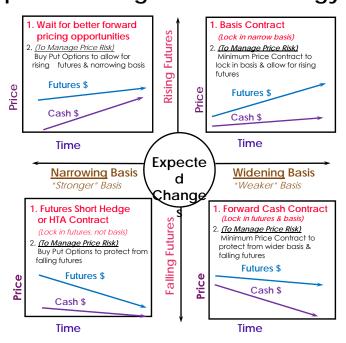


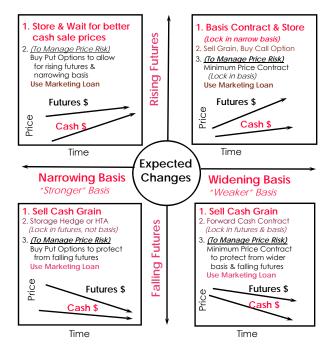
Most Common grain marketing tools in KS

- ► <u>Cash sales</u> sell grain sometime after it has been harvested.
- ▶ Forward Contract (FC) sell grain prior to harvest through a contract with the elevator. The contract specifies the price and how much to be delivered and a delivery date. (HTA & Basis Contracts are FC variations)
- ► <u>Futures Hedge</u> sell a futures contract (5000 bu). At harvest, offset (buy) the futures contract and sell grain in the cash market to lock-in price.
- ▶ Put & Call Options Buying a put option allows you to protect against "downside" price risk, w/o limiting the upside. Calls protect the "upside"

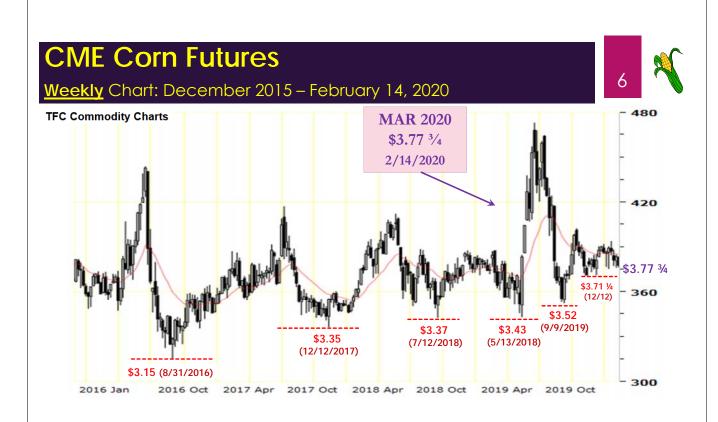
Which pre-harvest grain sales strategy to use?



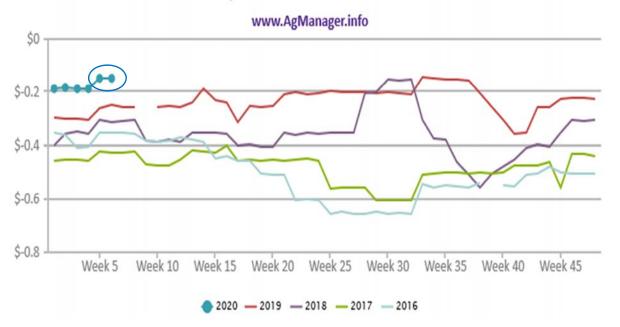
Harvest/Postharvest Grain Sales Strategies







SALINA, KS: Corn Basis - CARGILL



Corn Cash Bids - Near Assaria, KS

Friday, February 14, 2020 (Source: DTN Grains)

Elevator/Location	Feb 2020	Mar 2020	Oct 2020
AGRI TRAILS COOP GYPSUM, KS	3.58		
MID KANSAS COOP LINDSBORG, KS	3.50		3.41
ADM GRAIN SALINA, KS	3.63		3.59
SCOULAR GRAIN CO SALINA, KS	3.63		
CARGILL SALINA, KS	3.63	3.65	
AGRI TRAILS COOP CARLTON, KS	3.58		
MID KANSAS COOP MARQUETTE, KS	3.45		3.41
MID KANSAS COOP CANTON, KS	3.58		3.59
COOPERATIVE GRAIN & SUPPLY CANTON, KS	3.57		3.48
AGRI TRAILS COOP DURHAM, KS	3.58	-	-

2020 KSU Cost of Production
Budget Estimates

Non-Irrigated Corn
North Central KS
@ 120 bu/ac Yield

- Direct Cost (w/o Cash Rent) = \$2.85 /bu
- All Cost (With Cash Rent) = \$3.36 /bu

8

Change
UNCH
UNCH
UNCH
UNCH
UNCH
UNCH
UNCH

Change UNCH

US #2 Yellow Corn - dollars/bushel													
100	Cash E	Bids	Chg	Bas	is		Avg:						
Iowa-Eastern:	3.7050 -	3.7750	4	-9H	to	-2H	-7.09						
lowa-Western:	3.6950 -	3.8950	4	-10H	to	10H	-0.39						
Illinois:	3.7250 -	4.0450	4	-7H	to	25H	6.57						
Indiana:	3.8250 -	4.1250	4	3H	to	33H	22.78						
Ohio:	4.0450 -	4.1450	4	25H	to	35H	31.83						
Michigan:	3.8950 -	4.1450	4	10H	to	35H	25.00						
Kansas:	3.8750 -	4.1050	4	8H	to	31H	14.80						
Minnesota:	3.4150 -	3.7850	4	-38H	to	-1H	-12.29						
Nebraska:	3.6450 -	3.8050	4	-15H	to	1H	-5.35						
Wisconsin:	3.5950 -	3.6950	4	-20H	to	-10H	-15.20						
South Dakota:	3.4450 -	3.8450	4	-35H	to	5H	-14.38						
Missouri:	3.7150 -	3.7750	4	-8H	to	-2H	-5.00						
	Sorghun	n - dollai	rs/bus	hel									
	Cash E	Bids	Chg	E	Bas	is	Avg:						
Kansas:	3.5450 -	3.5950	4	-25H	to	-20H	-22.50						

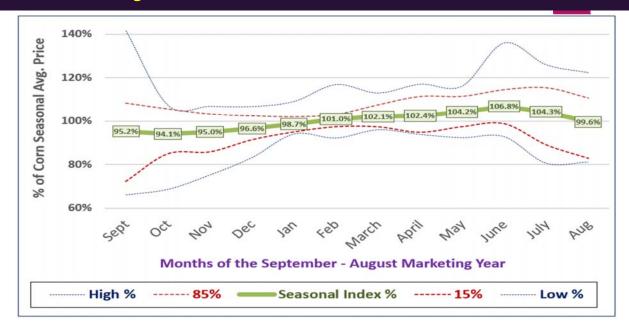
DC_GR112

Dodge City, KS Fri, Feb 14, 2020 USDA-KS Dept of Ag Market News

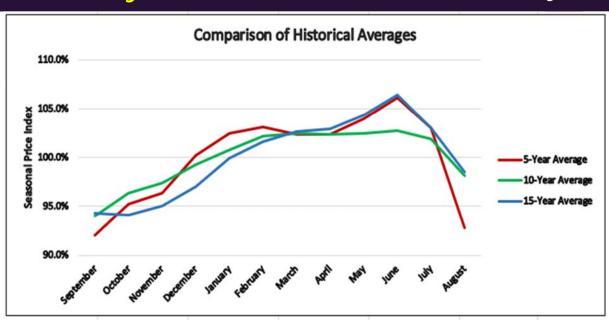
Central Kansas Terminal and Processor Daily Grain Report

		TERMINAL US NO 2 YEI	LOW CORN	
	Bids	Change (¢/bu)	Basis	(
Atchison	3.93	DN 2	15H	
Topeka	3.88	DN 2	10H	
Salina	3.63-3.64	DN 2	-15H to -14H	
Newton	3.62	DN 2	-16H	
Hutchinson	3.62-3.73	DN 2	-16H to -5H	
Wellington	3.61	DN 2	-17H	
Arkansas City	3.57	DN 2	-21H	
		PROCESSOR US NO 2 YE	ELLOW CORN	
	Bids	Change (¢/bu)	Basis	
Atchison	3.92	DN 2	14H	

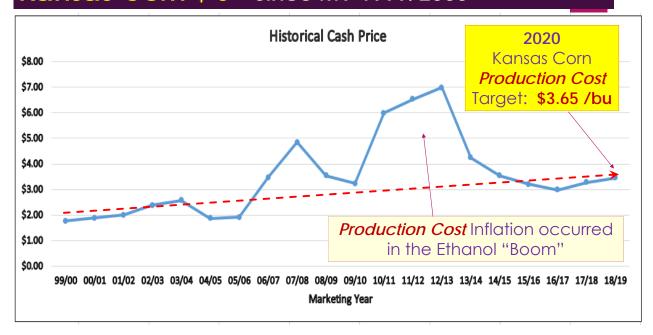
Seasonality of Kansas Corn Prices - last 15 years



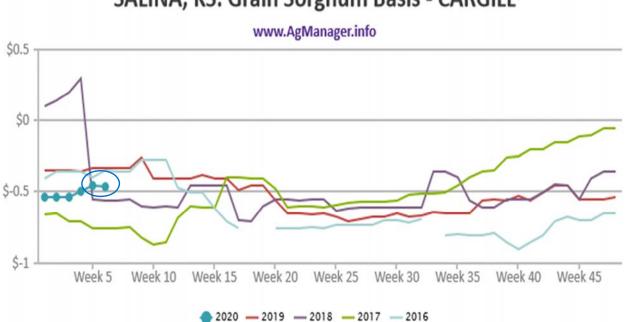
Seasonality of Kansas Corn \$'s - last 5-10-15 years



Kansas Corn \$'s - Since MY 1999/2000



SALINA, KS: Grain Sorghum Basis - CARGILL



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15

Milo Cash Bids - Near Assaria, KS

Friday, February 14, 2020 (Source: DTN Grains)

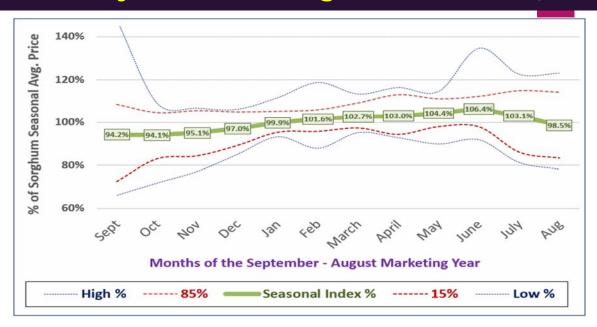
Elevator/Location	Feb 2020	Mar 2020	Oct 2020	Nov 2020
AGRI TRAILS COOP GYPSUM, KS	3.08			
MID KANSAS COOP LINDSBORG, KS	3.04		3.14	
ADM GRAIN SALINA, KS	3.28			3.24
SCOULAR GRAIN CO SALINA, KS	3.28			
CARGILL SALINA, KS	3.32	3.37		
AGRI TRAILS COOP CARLTON, KS	3.08		-	_
MID KANSAS COOP MARQUETTE, KS	3.04		3.18	
MID KANSAS COOP CANTON, KS	3.28		3.29	-
COOPERATIVE GRAIN & SUPPLY CANTON, KS	3.06	_	3.19	-

2020 KSU Cost of Production
Budget Estimates

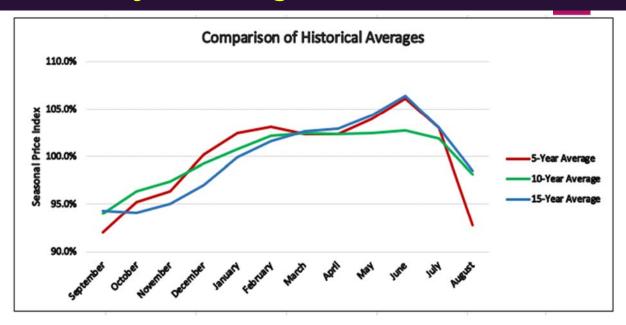
Non-Irrigated Grain Sorghum
North Central KS
@ \$120 bu/ac Yield

- Direct Cost (w/o Cash Rent) = \$2.24 /bu
- All Cost (With Cash Rent) = \$2.74 /bu

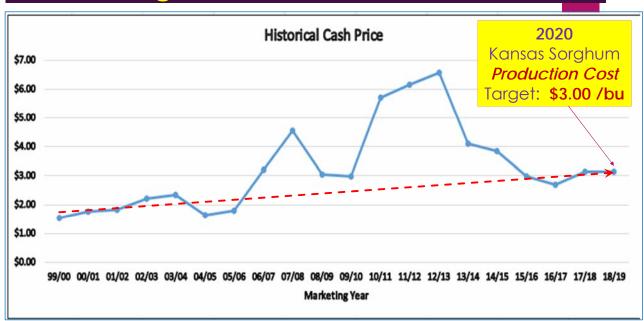
Seasonality of Kansas Sorghum \$'s - last 15 years

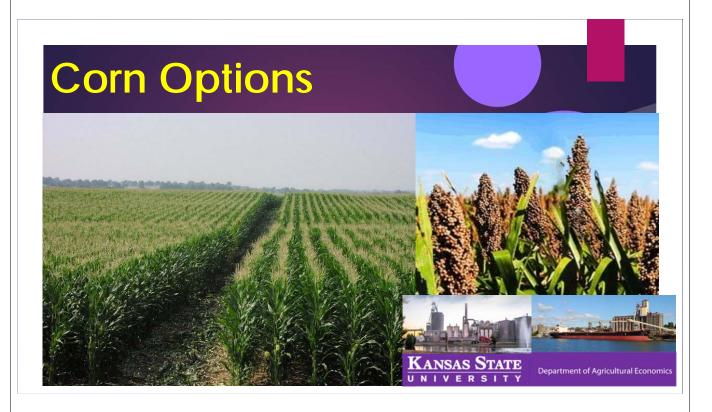


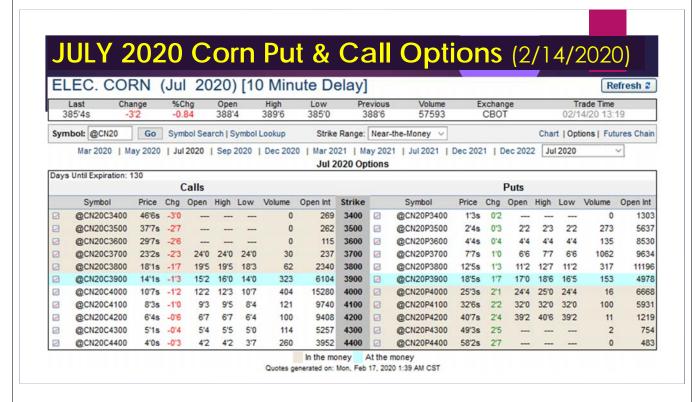
Seasonality of KS Sorghum \$'s - last 5-10-15 years



Kansas Sorghum \$'s - Since MY 1999/2000



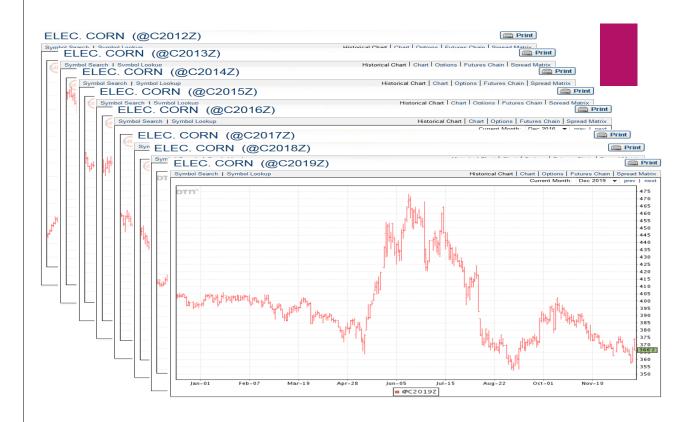




Probability of <u>Corn Futures</u> Trends

Examining 1990-2019 (Last 30 years)

- ► Likelihood of *Level-Higher* DEC Corn Futures??
 - o Trends through Spring-Summer (June-July)?
 - ⇒ Spring-Summer Price 1 occurred 30/30 Years (100%)
 - Which direction did prices move by <u>Fall</u> (Nov-Dec)??
 - ⇒Price moving sideways / higher = 9/30 Years (30%)
 - ⇒Price moving <u>lower</u> = 21/30 Years (70%)





"2019 Old Crop" Corn & Milo strategies in 2020?

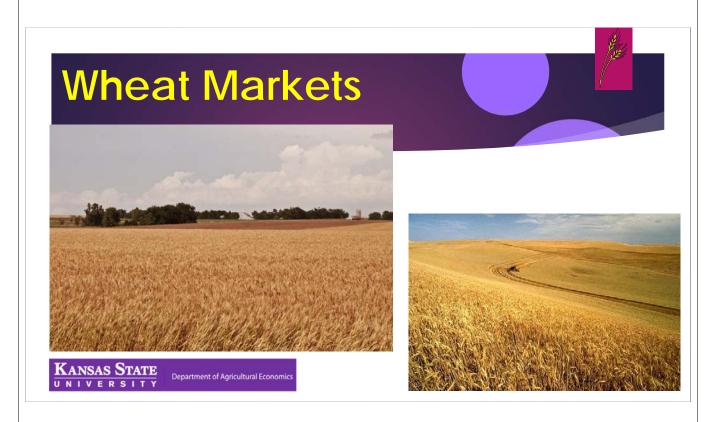
- ► For "Old Crop" 2019 Feedgrains
 - On-Farm Storage ⇒ Yes, <u>but</u> not until spring-summer 2020

 - Hedge, HTA or Fwd Contract ⇒ Basis bids to drive choice
 - Buy Puts ⇒ No unless expect major price drop in spring
 - Sell Cash & Buy Call Options ⇒ Basis gain (?) vs Storage cost

"New Crop 2020" Corn & Sorghum Strategies

- ► For "New Crop" 2020 Feedgrains
 - Futures Hedge or HTA

 ⇒ Yes IF Basis is likely to strengthen
 - Forward Contract
 ⇒ Yes IF have strong basis now
 - Buy Puts
 ⇒ Yes if preplant/early rally
 - Fwrd Contract + Buy Calls ⇒ Best with a "2 step" approach

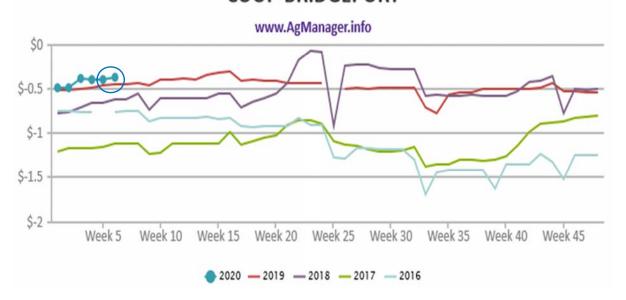


CME Kansas HRW Wheat

Weekly Chart: December 2015 - February 14, 2020



ASSARIA, KS: Hard Red Winter Wheat Basis - FARMERS GRAIN COOP-BRIDGEPORT



28

22

HRW Wheat Cash Bids - Near Assaria, KS

Friday, January 14, 2020 (Source: DTN Grains)

Elevator/Location	Feb 2020	Mar 2020	Jul 2020
MID KANSAS COOP- BRIDGEPORT ASSARIA, KS	4.29		4.30
AGRI TRAILS COOP GYPSUM, KS	4.45		
MID KANSAS COOP LINDSBORG, KS	4.29		4.35
MID KANSAS COOP FALUN, KS	4.28		4.26
SCOULAR GRAIN CO SALINA, KS	4.61		
CARGILL SALINA, KS	4.65	4.65	
AGRI TRAILS COOP CARLTON, KS	4.45		
MID KANSAS COOP MCPHERSON, KS	4.33		4.40
COOPERATIVE GRAIN & SUPPLY CANTON, KS	4.36		4.39

2020 KSU Cost of Production **Budget Estimates**

Non-Irrigated Wheat North Central KS @ 50 bu/ac Yield

- Direct Cost (w/o Cash Rent) = \$4.22 /bu
- All Cost (With Cash Rent) = \$5.44 /bu

DC GR112

Dodge City, KS Fri, Feb 14, 2020 USDA-KS Dept of Ag Market News

Central Kansas Terminal and Processor Daily Grain Report

		TERMINAL HRW WHEAT O	RD US NO 1
	Bids	Change (¢/bu)	Basis
Topeka	4.61	UNCH	-5H
Concordia	4.51	UNCH	-15H
Salina	4.61-4.66	UNCH	-5H to OptH
Great Bend	4.46	UNCH	-20H
Newton	4.38	UNCH	-28H
Hutchinson	4.66-4.94	UNCH	OptH to 28H
Wichita	4.54-4.66	UNCH	-12H to OptH
Wellington	4.45-4.51	UNCH	-21H to -15H
Arkansas City	4.43	UNCH	-23Н
		TERMINAL HWW WHEAT O	RD US NO 2
	Bids	Change (¢/bu)	Basis
Wichita	4.66	UNCH	OptH

UNCH UNCH UNCH UNCH UNCH UNCH UNCH UNCH

Change

30

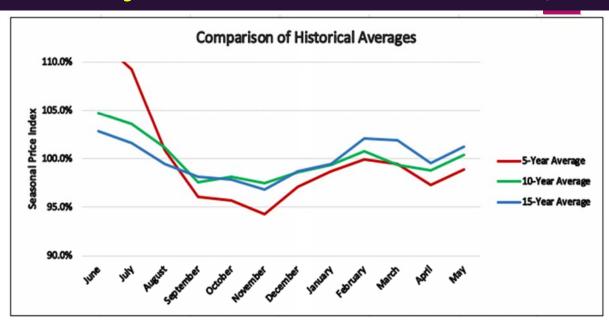
Change UNCH

UNCH

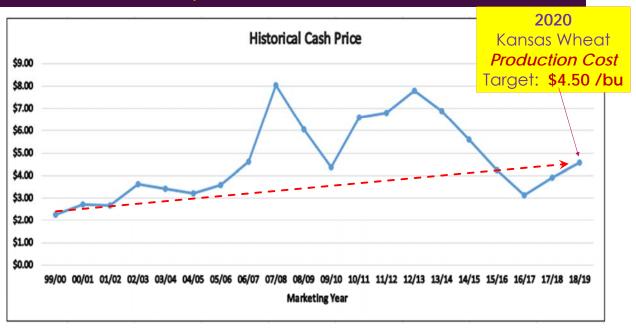
Seasonality of KS Wheat Prices - last 15 years

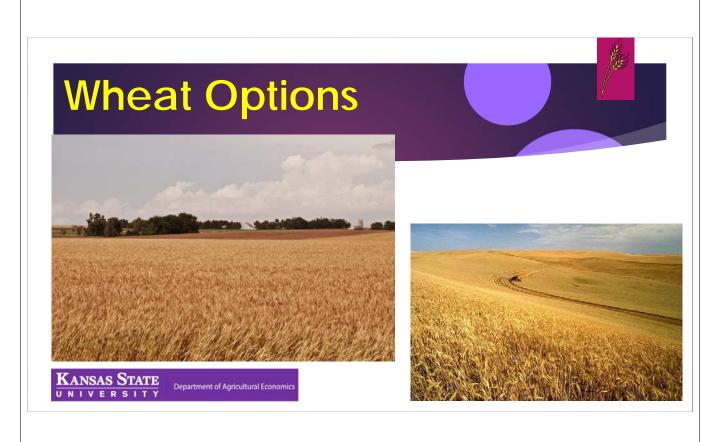


Seasonality of Kansas Corn \$'s - last 5-10-15 years

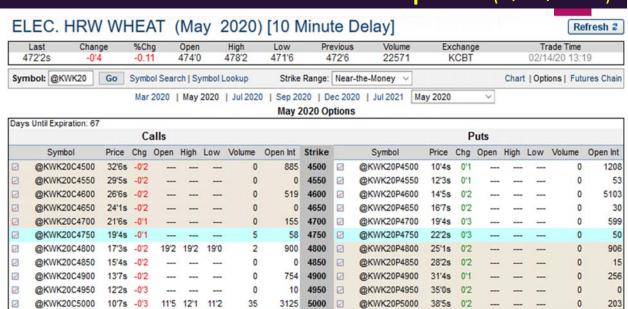


Kansas Wheat \$'s - Since MY 1999/2000





MAY 2020 HRW Wheat Put & Call Options (2/14/2020)



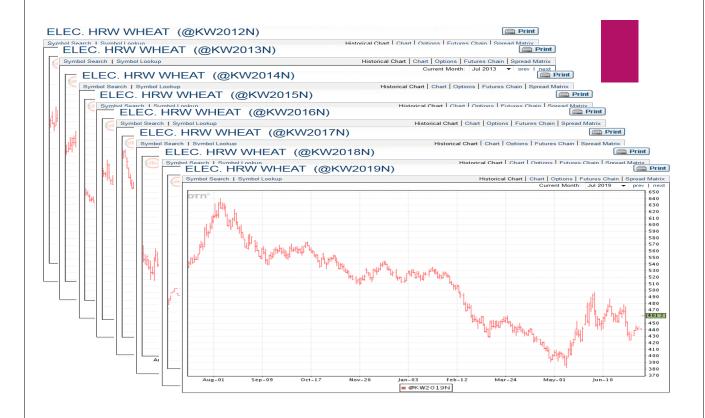
In the money At the money

Quotes generated on: Mon, Feb 17, 2020 2:12 AM CST

Probability of <u>HRW Wheat Futures Tren</u>ds

Examining 1990-2019 (Last 29 years)

- Likelihood of *Level-Higher JULY HRW Wheat futures?*?
 - o Trends through Spring (March-May)??
 - ⇒ Spring Price ⇒ û occurred 28/29 Years (96%)
 - o Which direction did prices move by Summer (July-August)??
 - ⇒ Price moving sideways / higher = 11/29 Years (38%)
 - ⇒ Price moving <u>lower</u> = 18/29 Years (62%)



JULY 2020 HRW Wheat Put & Call Options (2/14/2020)

ELEC. HRW WHEAT (Jul 2020) [10 Minute Delay]

Refresh 2

Last 478'6s	Change -0'2	%Chg -0.05	Open 479'2	High 484'4	Low 478'2	Previous 479'0	Volume 7480	Exchange KCBT	Trade Time 02/14/20 13:19
Symbol: @K	WN20 Go	Symbol S	earch Symbo	l Lookup	Strike Ra	nge: Near-the	-Money V		Chart Options Futures Chain
		Mar 202	0 May 2020	Jul 2020	I Sep 2020	I Dec 2020	Jul 2021 Ju	ul 2020 ~	

Jul 2020 Options

Davs	Until Expiration: 13	0							.020 Op										
.,,	Calls										Puts								
	Symbol	Price	Chg	Open	High	Low	Volume	Open Int	Strike		Symbol	Price	Chg	Open	High	Low	Volume	Open Int	
2	@KWN20C4400	50'2s	-0'1				0	33	4400	2	@KWN20P4400	11'5s	0'1				1	318	
	@KWN20C4500	43'6s	-0'1				0	223	4500		@KWN20P4500	15'1s	0'1				0	792	
	@KWN20C4600	38'0s	-0"1				0	383	4600		@KWN20P4600	19'2s	0'1	17'4	17'4	17'4	1	459	
	@KWN20C4700	32'6s	-01				0	99	4700		@KWN20P4700	24'1s	0'1	23'6	23'6	23'6	1	167	
	@KWN20C4800	28°2s	-0"1				0	334	4800	2	@KWN20P4800	29'4s	0'1	27'3	27'4	27'3	3	223	
2	@KWN20C4900	24'2s	-0"1			-	0	123	4900	2	@KWN20P4900	35'3s	0'0	33'0	33'0	32'7	7	149	
2	@KWN20C5000	20'6s	-0'1				0	797	5000	0	@KWN20P5000	41'7s	0'0			_	0	390	
	@KWN20C5100	17'5s	-0'2	18'0	19'4	18'0	3	560	5100		@KWN20P5100	48'6s	0'0				0	268	
2	@KWN20C5200	15'0s	-0'3				40	378	5200		@KWN20P5200	56'1s	0'0				0	24	
	@KWN20C5300	12'7s	-0'2				0	665	5300		@KWN20P5300	63'7s	0.0				0	94	
	@KWN20C5400	10'7s	-0'3				1	89	5400		@KWN20P5400	71'7s	-0'1		_	_	0	13	

"2019 Old Crop" Wheat Strategies in 2020?

- ► For "Old Crop" 2019 Wheat
 - On-Farm Storage ⇒ By now are waiting for Spring 2020 rally
 - Off-Farm Storage ⇒ Ditto on-farm, <u>but</u> need <u>larger</u> 2020 rallies
 - HTA, Hedge or Fwd Contract

 FC to lock in strong basis
 - Buy Puts

 ⇒ How much do you fear a preharvest fall?
 - Sell Cash & Buy Call Options

 ⇒ Storage cost vs Call premium?

"New Crop" Wheat Strategies in 2020?

- ► For "New Crop" 2020 Wheat
 - Futures Hedge

 ⇒ Usually do IF have weakening basis trend
 - Forward Contract ⇒ FC IF strong NC basis & FC\$ ≥ Est Cost / bu
 - Buy Puts
 ⇒ Maybe @ Spring rallies before sure of Bushels
 - FC + Buy Calls

 ⇒ Lock in "good" wheat basis & protect topside



CME Soybean Futures

Weekly Chart: Fall 2015 through February 14, 2020





SALINA, KS: Soybeans Basis - CARGILL



Soybean Cash Bids - Near Assaria, KS

44

Friday, February 14, 2020 (Source: DTN Grains)

Elevator/Location	Feb 2020	Mar 2020	Oct 2020
AGRI TRAILS COOP GYPSUM, KS	8.22		
MID KANSAS COOP LINDSBORG, KS	8.11		8.21
ADM GRAIN SALINA, KS	8.34		8.28
SCOULAR GRAIN CO SALINA, KS	8.34		
CARGILL SALINA, KS	8.38	8.33	
AGRI TRAILS COOP CARLTON, KS	8.22		
MID KANSAS COOP MARQUETTE, KS	8.08		8.17
MID KANSAS COOP CANTON, KS	8.24		8.32

2020 KSU Cost of Production Budget Estimates

Non-Irrigated Soybeans
North Central KS

@ 41 bu/ac Yield

- Direct Cost (w/o Cash Rent) = \$5.92 /bu
- All Cost (With Cash Rent) = \$7.40 /bu

45

DC GR112

Dodge City, KS Fri, Feb 14, 2020 USDA-KS Dept of Ag Market News

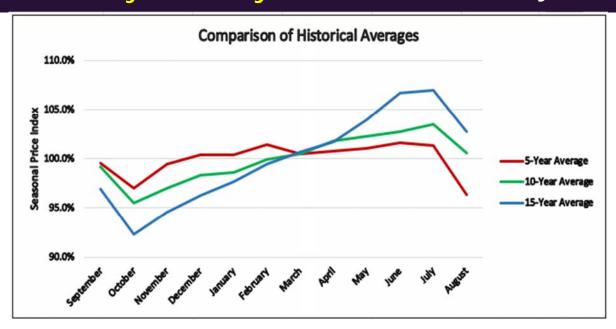
Central Kansas Terminal and Processor Daily Grain Report

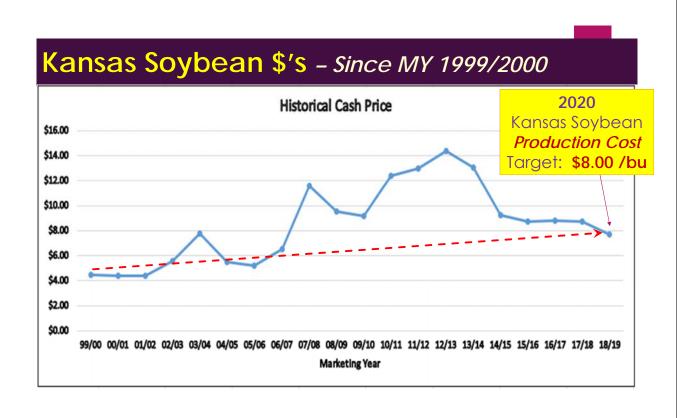
		TERMINAL US NO 2 SON	YBEANS	
	Bids	Change (¢/bu)	Basis	Change
Atchison	8.76	DN 2	-18H	UNCH
Topeka	8.66	UP 2	-28H	UP 4
Salina	8.34-8.39	DN 2-UP 3	-60H to -55H	UNCH-UP 5
Newton	8.16	DN 2	-78H	UNCH
Hutchinson	8.14-8.39	DN 2	-80H to -55H	UNCH
Wichita	8.26	DN 2	-68H	UNCH
Wellington	8.24	DN 2	-70H	UNCH
Arkansas City	8.22	DN 2	-72H	UNCH
		PROCESSOR US NO 2 SO	OYBEANS	
	Bids	Change (¢/bu)	Basis	Change
Emporia	8.89	DN 2	-5H	UNCH
Wichita	8.87	DN 2	-7н	UNCH

Seasonality of KS Soybean Prices - last 15 years



Seasonality of KS Soybean \$'s - last 5-10-15 years













KANSAS STATE

Department of Agricultural Economics

JULY 2020 Soybean Put & Call Options (2/14/2020)

ELEC. SOYBEANS (Jul 2020) [10 Minute Delay]

Refresh 2

Last	Change	%Chg	Open	High	Low	Previous	Volume	Exchange	Trade Time
915'4s	-2'4	-0.27	917'2	919'6	912'0	918'0	43335	CBOT	02/14/20 13:19
Symbol: @SN2	0 Go	Symbol S	earch I Symb	ool Lookup	Strike F	Range: Near-the	-Money V		Chart Options Futures Chain

Mar 2020 | May 2020 | Jul 2020 | Aug 2020 | Sep 2020 | Nov 2020 | Jan 2021 | Mar 2021 | May 2021 | Nov 2021 | Jul 2020 \rightarrow Jul 2020 Options

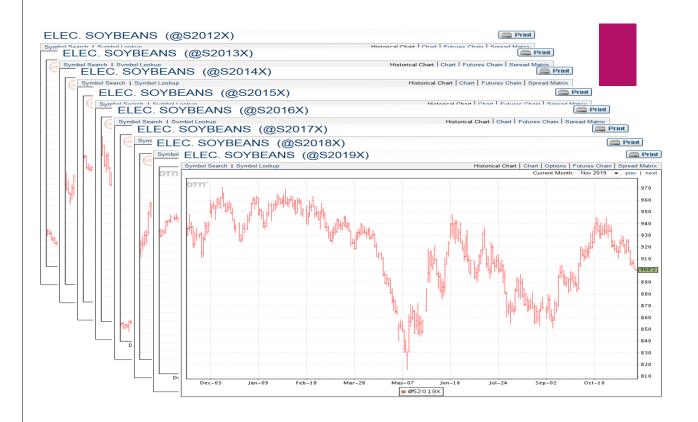
Days	Until Expiration: 13	30						0011										
110.019	Calls										Puts							
	Symbol	Price	Chg	Open	High	Low	Volume	Open Int	Strike		Symbol	Price	Chg	Open	High	Low	Volume	Open Int
	@SN20C8200	97'2s	-2'4				0	2	8200	2	@SN20P8200	2'1s	0.0				0	965
	@SN20C8400	79'1s	-2'3				0	52	8400	2	@SN20P8400	3'7s	-0'2	3'5	4'1	3'5	132	2311
	@SN20C8600	62'4s	-2'2			-	0	57	8600	2	@SN20P8600	7'1s	0'5	6'5	6'5	6'5	35	4091
	@SN20C8800	48'0s	-2'1				20	214	8800		@SN20P8800	12'5s	0'2	11'5	13'1	11'5	727	6438
	@SN20C9000	36'1s	-0'5	35'1	35'1	35'0	12	1306	9000	3	@SN20P9000	20'5s	0'2	19'4	21'0	19'2	47	8345
	@SN20C9200	26'6s	0'2	28'6	28'6	25'0	165	2814	9200	2	@SN20P9200	31'2s	0'5	29'3	31'5	29'3	112	2281
	@SN20C9400	19'6s	-1'0	21'0	21'3	18'5	558	4192	9400		@SN20P9400	44'1s	2'6	42'6	42'6	42'6	12	1146
	@SN20C9600	14'48	-0'6	15'5	15'6	13'7	83	5426	9600		@SN20P9600	58'6s	1'5				0	2699
	@SN20C9800	10'5s	-0'3	11'6	11'6	10'2	127	1631	9800		@SN20P9800	74'7s	1'6				20	435
	@SN20C10000	7'7s	-0'2	8'5	8'5	7'4	81	7545	10000		@SN20P10000	92'0s	1'7				10	171
	@SN20C10200	5'7s	-1'0	6'4	6'4	6'3	7	5603	10200		@SN20P10200	110'0s	2'0				0	30

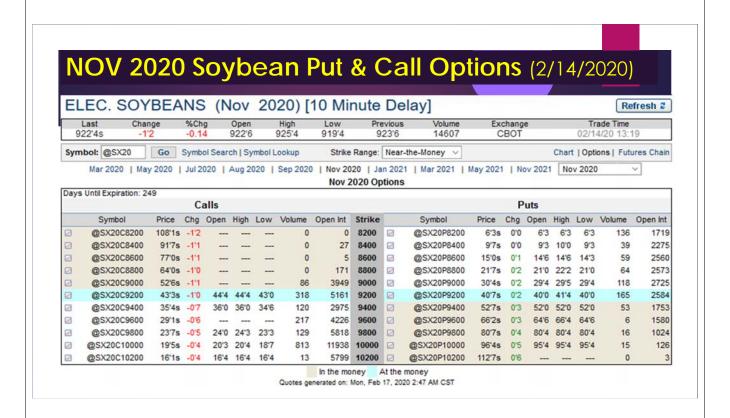
In the money At the money

Quotes generated on: Mon. Feb 17, 2020 2:45 AM CST

Probability of Soybean Futures Trends Examining 1990-2019 (Last 29 years)

- ► Likelihood of *Level-Higher* NOV Soybean Futures??
 - o Trend through Spring-Summer (May-August)??
 - ⇒ Spring-Summer Price 1 occurred 23/29 Years (85%)
 - Which direction did prices move by <u>Fall</u> (Oct-Nov)??
 - ⇒ Price moving sideways / higher = 13/29 Years (41%)
 - ⇒ Price moving <u>lower</u> = 17/29 Years (59%)





"2019 Crop" Soybean Marketing Strategies in 2020

- ► For "Old Crop" 2019 Soybeans
 - On-Farm Storage ⇒ Yes, <u>but</u> @ risk to û 2020 So. America crop
 - Off-Farm Storage ⇒ Ditto On-Farm storage but at higher costs
 - Hedge / HTA FC ⇒ IF Large So. Am. Crop, THEN Storage hedge
 - Buy Puts

 IF Large So. Am. Crop weak \$s may warrant Put Options
 - Sell Cash & Buy Calls

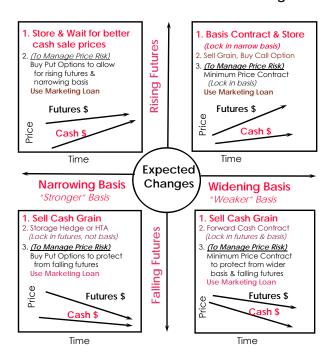
 "IF" have strong basis, THEN "sure"

"New Crop" 2020 Soybean Marketing Strategies

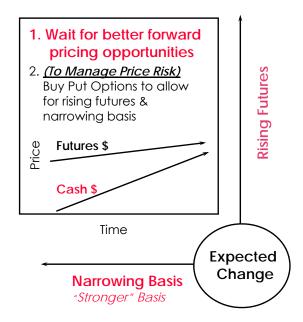
- ► For "New Crop" 2020 Soybeans
 - Futures Hedge / HTA ⇒ Prefer not is have strong NC basis bides
 - Forward Contract ⇒ Use if have strong NC fall '20 basis bids
 - Buy Puts

 ⇒ Yes IF preplant @ spring/summer rallies
 - FC + Buy Calls
 ⇒ Yes IF have strong basis bid in FC

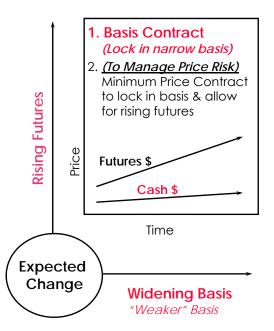
Harvest/Postharvest Grain Sales Strategies



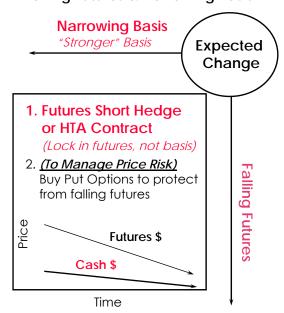
Preharvest Grain Sales Strategies for Rising Futures & Narrowing Basis



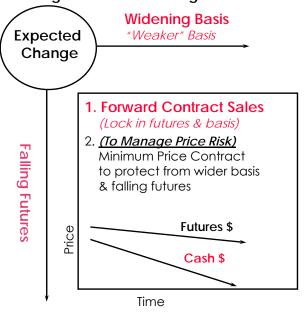
Preharvest Grain Sales Strategies for Rising Futures & Widening Basis



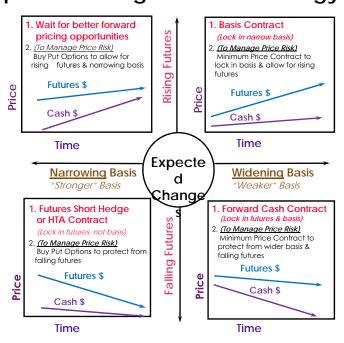
Preharvest Grain Sales Strategies for Falling Futures & Narrowing Basis



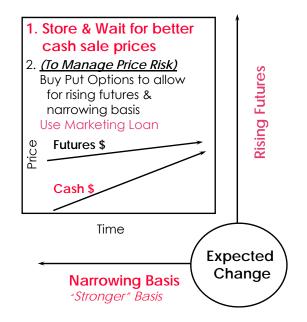
Preharvest Grain Sales Strategies for Falling Futures & Widening Basis



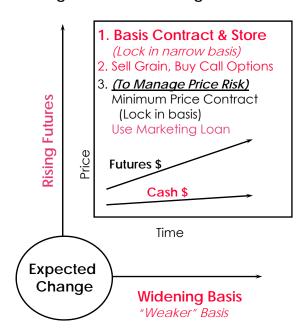
Which pre-harvest grain sales strategy to use?



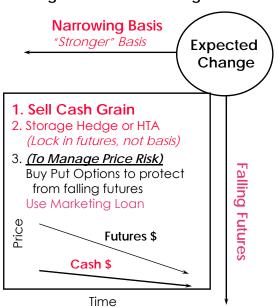
Harvest/Postharvest Sales Strategies for Rising Futures & Narrowing Basis



Harvest/Postharvest Sales Strategies for Rising Futures & Widening Basis



Harvest/Postharvest Sales Strategies for Falling Futures & Narrowing Basis



Harvest/Postharvest Sales Strategies for Falling Futures & Widening Basis

Expected Change Widening Basis

"Weaker" Basis

Falling Futures

1. Sell Cash Grain
2. Forward Cash Contract
(Lock in futures & basis)
3. (To Manage Price Risk)
Minimum Price Contract
to protect from wider basis
& falling futures
Use Marketing Loan
Futures \$

Time

Cash \$

Cuestions?

Daniel O'Brien - Kansas State University

www.AgManager.info

KSUGrains on Twitter

www.ksugrains.wordpress.com

"Daniel O'Brien" on Facebook

KANSAS STATE
UNIVERSITY

Department of Agricultural Economics

