

DATE 12-Dec-19

Cascade Commodity Consulting Company

All information is provided as a reference only and not intended to be used for trading.

US Basis and Flat Price Values FOB Vessel

Month	Futures	CBOT	KCBT	MGE	Matiff Euro/mt	Euro	Corn CBOT	\$ AUD	Beans CBOT	AUW	BWF	3-Month LIBOR
Sep-20	U	542.00	465.50	549.00	180.25	1.131	390.25	0.6943	940.50	251.75	201.50	1.89
Dec-20	Z	551.75	477.75	563.00	183.50	1.137	393.25	0.6956	948.00	249.75	206.50	
Mar-20	H	530.25	442.75	523.00	183.25	1.119	377.75	0.6914	912.50	250.25	220.00	
May-20	K	533.00	450.25	531.25	184.25	1.125	384.25	0.6929	926.00	251.25	220.75	
Jul-20	N	536.00	457.00	540.00	180.25	1.131	390.00	0.6943	938.75	251.75	198.00	
		561	490.25				403		944.5			

Gulf Export		HRW FOB Gulf				HRS		SRW	LAKES		
Basis (ct/bu)		Ords	11.0%	11.5%	12.0%	13.0%	13.5%		13%	HRS 13.5%	14%
Old Crop		-45.00	-40.00	-20.00		TX Gulf -0 ct/bu					
New Crop		-45.00	-40.00	-20.00		-10.00	14% +10		0.00		8.00
Shipment	Futures	Basis NOLA									
Jun	N	125.00	130.00	150.00	170.00	-	-	-	-	-	-
Jul	N	130.00	135.00	155.00	175.00	-	-	-	-	-	-
Aug	U	-	-	-	-	-	-	-	-	-	-
Sep	U	-	-	-	-	-	-	-	-	-	-
Oct	Z	-	-	-	-	-	-	-	-	-	-
Nov	Z	-	-	-	-	-	-	-	-	-	-
Dec	Z	-	-	-	-	-	-	-	-	-	-
Jan	H	130.00	135.00	155.00	175.00	210.00	220.00	125.00	-	-	-
Feb	H	130.00	135.00	155.00	175.00	210.00	220.00	130.00	-	-	-
Mar	H	130.00	135.00	155.00	175.00	210.00	220.00	135.00	-	-	-
Apr	K	125.00	130.00	150.00	170.00	210.00	220.00	135.00	-	-	-
May	K	130.00	135.00	155.00	175.00	210.00	220.00	140.00	-	-	-
Flat Price FOB Vessel		HRW				HRS		SRW	LAKES		
Shipment	Futures	Ords	11.0%	11.5%	12.0%	13.0%	13.5%		13%	HRS 13.5%	14%
Jun	N	213.85	215.69	223.03	230.38	-	-	-	-	-	-
Jul	N	215.69	217.52	224.87	232.22	-	-	-	-	-	-
Aug	U	-	-	-	-	-	-	-	-	-	-
Sep	U	-	-	-	-	-	-	-	-	-	-
Oct	Z	-	-	-	-	-	-	-	-	-	-
Nov	Z	-	-	-	-	-	-	-	-	-	-
Dec	Z	-	-	-	-	-	-	-	-	-	-
Jan	H	210.45	212.29	219.64	226.98	269.33	273.01	240.76	-	-	-
Feb	H	210.45	212.29	219.64	226.98	269.33	273.01	242.60	-	-	-
Mar	H	210.45	212.29	219.64	226.98	269.33	273.01	244.44	-	-	-
Apr	K	211.37	213.21	220.55	227.90	272.36	276.04	245.45	-	-	-
May	K	213.21	215.04	222.39	229.74	272.36	276.04	247.29	-	-	-

PNW CASH BASIS FOB (S&T+S&F) US c/bu		HRW				NS 25 DHV, 275 FN			SWW	CANADA CASH BASIS	
Basis (ct/bu)		10.50%	11.0%	11.5%	12.0%	13%	13.5%	14.0%	Max 10.5% pro	Vancouver Canada	Vancouver Canada
New Crop		-15.00	-10.00		10.00	-15.00	-10.00	+15 14.5%		#2 13.5%	#1 13.8%
Old Crop										275 FN	
Shipment	Futures	50 ct/bu prem DNS									
Jun	N	-	-	-	-	-	-	-	-	-	-
Jul	N	-	-	-	-	-	-	-	-	-	-
Aug	U	-	-	-	-	-	-	-	-	-	-
Sep	U	-	-	-	-	-	-	-	-	-	-
Oct	Z	-	-	-	-	-	-	-	-	-	-
Nov	Z	-	-	-	-	-	-	-	-	-	-
Dec	Z	-	-	-	-	-	-	-	-	-	-
Jan	H	160.00	165.00	175.00	185.00	150.00	155.00	165.00	75	-	-
Feb	H	165.00	170.00	180.00	190.00	150.00	155.00	165.00	80	-	-
Mar	H	165.00	170.00	180.00	190.00	155.00	160.00	170.00	85	145.00	185.00
Apr	K	165.00	170.00	180.00	190.00	150.00	155.00	165.00	87	140.00	180.00
May	K	165.00	170.00	180.00	190.00	155.00	160.00	170.00	92	145.00	185.00
Flat Price FOB Vessel (USD/mt)		HRW				HRS			SWW	Vancouver Canada	
Shipment	Futures	10.50%	11.0%	11.5%	12.0%	13%	13.5%	14%		Vancouver Canada	Vancouver Canada
Jun	N	-	-	-	-	-	-	-	-	-	-
Jul	N	-	-	-	-	-	-	-	-	-	-
Aug	U	-	-	-	-	-	-	-	-	-	-
Sep	U	-	-	-	-	-	-	-	-	-	-
Oct	Z	-	-	-	-	-	-	-	-	-	-
Nov	Z	-	-	-	-	-	-	-	-	-	-
Dec	Z	-	-	-	-	-	-	-	-	-	-
Jan	H	221.47	223.31	226.98	230.66	247.29	249.12	252.80	222	-	-
Feb	H	223.31	225.15	228.82	232.50	247.29	249.12	252.80	224	-	-
Mar	H	223.31	225.15	228.82	232.50	249.12	250.96	254.63	226	245.45	260.15
Apr	K	226.07	227.90	231.58	235.25	250.32	252.15	255.83	228	246.64	261.34
May	K	226.07	227.90	231.58	235.25	252.15	253.99	257.67	230	248.48	263.18

DNS vs. HRW spot market Chicago gateway						Spring Wheat vs HRW Basis Chicago gateway							
Spot	DNS 14%	HRW 14%	DNS 13.5%	HRW 13%	DNS 13%	HRW 12%	J/F/M	DNS 14%	HRW 14%	DNS 13.5%	HRW 13%	DNS 13%	HRW 12%
Basis	145.00	202.00	140.00	202.00	140.00	155.00	Basis	160.00	200.00	155.00	200.00	150.00	150.00
Futures	523.00	442.75	523.00	442.75	523.00	442.75	Futures	523.00	442.75	523.00	442.75	523.00	442.75
Del Chicago	668.00	644.75	663.00	644.75	663.00	597.75	Del Chicago	683.00	642.75	678.00	642.75	673.00	592.75

Spring Wheat + HRW Milling Blend						
14% HRS Protein Blend						
	Spot Basis	Futures	Flat Price	Blend	Blended Price	Basis MW
15% HRS	165	523.00	688.00	2.5	657.93	134.93
11.5% HRW	140	442.75	582.75	1		
14% HRS Comparison	160	523.00	683.00			
Blended Discount (ct/bu)	25.07					

14% HRS Protein Blend						
	Spot Basis	Futures	Flat Price	Blend	Blended Price	Basis MW
15% HRS	165	523.00	688.00	3	657.94	134.94
11.0% HRW	125	442.75	567.75	1		
14% HRS Comparison	160	523.00	683.00			
Blended Discount (ct/bu)	25.06					

14% HRS Protein Blend						
	Spot Basis	Futures	Flat Price	Blend	Blended Price	Basis MW
15% HRS	165	523.00	688.00	4	658.95	135.95
10.0% HRW	100	442.75	542.75	1		
14% HRS Comparison	160	523.00	683.00			
Blended Discount (ct/bu)	24.05					

13% HRS Protein Blend (Western Mills)						
	Spot Basis	Futures	Flat Price	Blend	Blended Price	Basis MW
14% HRS	160	523.00	683.00	1.5	642.90	119.90
11.5% HRW	140	442.75	582.75	1		
13% HRS Comparison	150	523.00	673.00			
Blended Discount (ct/bu)	30.10					

13% HRS Protein Blend (Eastern Mills)						
	Spot Basis	Futures	Flat Price	Blend	Blended Price	Basis MW
14% HRS	160	523.00	683.00	2	644.58	121.58
11.0% HRW	125	442.75	567.75	1		
13% HRS Comparison	150	523.00	673.00			
Blended Discount (ct/bu)	28.42					

12.25% HRW Protein Blend						
	Spot Basis	Futures	Flat Price	Blend	Blended Price	Basis KW
15% HRS	165	523.00	688.00	1	608.11	165.36
10.0% HRW	100	442.75	542.75	1.2		
12.25% HRW Comparison	160	442.75	602.75			
Blended Discount (ct/bu)	-5.36					

12.0% HRW Protein Blend						
	Spot Basis	Futures	Flat Price	Blend	Blended Price	Basis KW
14% HRS	160	523.00	683.00	1	606.17	163.42
11.0% HRW	125	442.75	567.75	2		
12.0% HRW Comparison	155	442.75	597.75			
Blended Discount (ct/bu)	-8.42					

12.0% HRW Protein Blend						
	Spot Basis	Futures	Flat Price	Blend	Blended Price	Basis KW
13.5% HRS	155	523.00	678.00	1	611.85	169.10
11.0% HRW	125	442.75	567.75	1.5		
12.0% HRW Comparison	155	442.75	597.75			
Blended Discount (ct/bu)	-14.10					

11.5% HRW Protein Blend						
	Spot Basis	Futures	Flat Price	Blend	Blended Price	Basis KW
14% HRS	160	523.00	683.00	1	586.96	144.21
11.0% HRW	125	442.75	567.75	5		
11.5% HRW Comparison	140	442.75	582.75			
Blended Discount (ct/bu)	-4.21					

11.5% HRW Protein Blend						
	Spot Basis	Futures	Flat Price	Blend	Blended Price	Basis KW
12.0% HRW	155	442.75	597.75	3	584.00	141.25
10.0% HRW	100	442.75	542.75	1		
11.5% HRW Comparison	140	442.75	582.75			
Blended Discount (ct/bu)	-1.25					

11.0% HRW Protein Blend						
	Spot Basis	Futures	Flat Price	Blend	Blended Price	Basis KW
12.0% HRW	155	442.75	597.75	1	570.25	127.50
10.0% HRW	100	442.75	542.75	1		
11.0% HRW Comparison	125	442.75	567.75			
Blended Discount (ct/bu)	-2.50					

12-Dec-19

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US Grain Basis and Flat Price Values FOB Vessel

Month	Futures	CBOT	KCBT	MGE	Matiff Euro/mt	Euro	Corn CBOT	Beans CBOT
Sep-20	U	542.00	465.50	549.00	180.25	1.13	390.25	940.50
Dec-20	Z	551.75	477.75	563.00	183.50	1.14	393.25	948.00
Mar-20	H	530.25	442.75	523.00	183.25	1.12	377.75	912.50
May-20	K	533.00	450.25	531.25	184.25	1.12	384.25	926.00
Jul-20	N	536.00	457.00	540.00	180.25	1.13	390.00	938.75

Basis (ct/bu)		US GULF			Basis (ct/bu)		PNW		
Shipment	Futures	Corn #2 YC	Sorghum	Soybeans	Shipment	Futures	Corn #2 YC	Corn #3 YC	Soybeans
		CBOT					CBOT		
J/F/M	H	60.00	70.00	65.00	J/F/M	H	105.00	105.00	95.00
A/M	K	60.00	70.00	65.00	A/M	K	105.00	105.00	95.00
J/J	N	60.00	70.00	65.00	J/J	N	105.00	105.00	95.00
Flat Price FOB Vessel (USD/mt)		US GULF			Flat Price FOB Vessel (USD/mt)		PNW		
Shipment	Futures	Corn #2 YC	Sorghum	Soybeans	Shipment	Futures	Corn #2 YC	Corn #3 YC	Soybeans
J/F/M	H	172.33	176.27	372.21	J/F/M	H	190.05	190.05	370.19
A/M	K	174.89	178.83	359.17	A/M	K	192.61	192.61	375.15
J/J	N	177.16	181.09	364.13	J/J	N	194.87	194.87	379.84

Cash and Carrying Charges

BNSF Rail: Cash Carrying Charges to Warehousemen						
HRW 11%	Feb	Apr	Jun	Aug	Oct	Dec
Basis ct/bu	130.00	130.00	125.00	125.00	130.00	135.00
Futures ct/bu	442.75	450.25	457.00	465.50	477.75	477.75
Flat Price	572.75	580.25	582.00	590.50	607.75	612.75
Rail Freight	4.05	1.35	1.35	0.68	-1.35	-4.05
Delivered Gulf	576.80	581.60	583.35	591.18	606.40	608.70
Cash Carry	Storage Revenue ct/bu					
Feb-Apr	4.80					
Feb-Jun			6.5			
Feb-Aug				14.37		
Feb-Oct					29.59	
Feb-Dec						31.89
Cash Carry	Monthly Storage Revenue ct/bu					
Feb-Apr	2.40					
Feb-Jun			1.6			
Feb-Aug				2.40		
Feb-Oct					3.70	
Feb-Dec						3.19

SRW	Feb	Apr	Jun	Aug	Oct	Dec
Basis ct/bu	105.00	100.00	70.00	75.00	80.00	85.00
Futures ct/bu	530.25	533.00	536.00	542.00	551.75	551.75
Flat Price	635.25	633.00	606.00	617.00	631.75	636.75
Barge Freight	-62.28	-61.42	-61.42	-63.15	-65.74	-68.34
FOB Shipper	572.97	571.59	544.59	553.86	566.01	568.42
Cash Carry	Storage Revenue ct/bu					
Feb-Apr	-1.38					
Feb-Jun			-28.4			
Feb-Aug				-19.12		
Feb-Oct					-6.96	
Feb-Dec						-4.56
Cash Carry	Monthly Storage Revenue ct/bu					
Feb-Apr	-0.69					
Feb-Jun			-7.1			
Feb-Aug				-3.19		
Feb-Oct					-0.87	
Feb-Dec						-0.46

UP Rail: Cash Carrying Charges to Warehousemen						
HRW 11%	Feb	Apr	Jun	Aug	Oct	Dec
Basis ct/bu	130.00	130.00	125.00	125.00	130.00	135.00
Futures ct/bu	442.75	450.25	457.00	465.50	477.75	477.75
Flat Price	572.75	580.25	582.00	590.50	607.75	612.75
Rail Freight	6.76	2.03	2.03	1.35	-0.68	-2.70
Delivered Gulf	579.51	582.28	584.03	591.85	607.07	610.05
Cash Carry	Storage Revenue ct/bu					
Feb-Apr	2.77					
Feb-Jun			4.5			
Feb-Aug				12.34		
Feb-Oct					27.57	
Feb-Dec						30.54
Cash Carry	Monthly Storage Revenue ct/bu					
Feb-Apr	1.39					
Feb-Jun			1.1			
Feb-Aug				2.06		
Feb-Oct					3.45	
Feb-Dec						3.05

Domestic Freight				
Rail Freight	Rail Freight	Barge Freight	Barge Freight	Rail Freight
	BN Shuttle	Lower OH R.	Il. River	UP Shuttle
	\$bu/car over tariff	% of tariff	% of tariff	\$bu/car over tariff
	3700	12.00	17.30	3700
Jun '20	-50	255%	355%	-75
Jul '20	-50	265%	360%	-75
Aug '20	-25	270%	365%	-50
Sep '20	-25	275%	370%	-50
Oct '20	50	285%	380%	25
Nov '20	100	295%	390%	75
Dec '20	150	300%	395%	100
Jan '20	-400	260%	365%	-250
Feb '20	-150	260%	360%	-250
Mar '20	-150	260%	355%	-250
Apr '20	-50	255%	355%	-75
May '20	-50	255%	355%	-75
Cents/Bushel Equivalent				
Jun '20	-1.35	30.60	61.42	-2.03
Jul '20	-1.35	31.80	62.28	-2.03
Aug '20	-0.68	32.40	63.15	-1.35
Sep '20	-0.68	33.00	64.01	-1.35
Oct '20	1.35	34.20	65.74	0.68
Nov '20	2.70	35.40	67.47	2.03
Dec '20	4.05	36.00	68.34	2.70
Jan '20	-10.81	31.20	63.15	-6.76
Feb '20	-4.05	31.20	62.28	-6.76
Mar '20	-4.05	31.20	61.42	-6.76
Apr '20	-1.35	30.60	61.42	-2.03
May '20	-1.35	30.60	61.42	-2.03

Corn	Feb	Apr	Jun	Aug	Oct	Dec
Basis ct/bu	57.00	55.00	55.00	55.00	50.00	55.00
Futures ct/bu	377.75	384.25	390.00	390.25	393.25	393.25
Flat Price	434.75	439.25	445.00	445.25	443.25	448.25
Barge Freight	-62.28	-61.42	-61.42	-63.15	-65.74	-68.34
FOB Shipper	372.47	377.84	383.59	382.11	377.51	379.92
Cash Carry	Storage Revenue ct/bu					
Feb-Apr	5.36					
Feb-Jun			11.12			
Feb-Aug				9.63		
Feb-Oct					5.04	
Feb-Dec						7.44
Cash Carry	Monthly Storage Revenue ct/bu					
Feb-Apr	2.68					
Feb-Jun			2.78			
Feb-Aug				1.61		
Feb-Oct					0.63	
Feb-Dec						0.74

Soybeans	Feb	Apr	Jun	Aug	Oct	Dec
Basis ct/bu	43.00	40.00	40.00	40.00	40.00	40.00
Futures ct/bu	912.50	926.00	938.75	940.50	948.00	943.25
Flat Price	955.50	966.00	978.75	980.50	988.00	983.25
Barge Freight	-62.28	-61.42	-61.42	-63.15	-65.74	-68.34
FOB Shipper	893.22	904.59	917.34	917.36	922.26	914.92
Cash Carry	Storage Revenue ct/bu					
Feb-Apr	11.37					
Feb-Jun			24.12			
Feb-Aug				24.14		
Feb-Oct					29.04	
Feb-Dec						21.69
Cash Carry	Monthly Storage Revenue ct/bu					
Feb-Apr	5.68					
Feb-Jun			6.03			
Feb-Aug				4.02		
Feb-Oct					3.63	
Feb-Dec						2.17

12-Dec-19

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Foreign Basis and Flat Price Values FOB Vessel

Month	Futures	CBOT	KCBT	MGE	Matiff Euro/mt	Euro	\$ AUD	AUW	BWF
Sep-20	U	542.00	465.50	549.00	180.25	1.1309	0.6943	251.75	201.50
Dec-20	Z	551.75	477.75	563.00	183.50	1.1370	0.6956	249.75	206.50
Mar-20	H	530.25	442.75	523.00	183.25	1.1185	0.6914	250.25	220.00
May-20	K	533.00	450.25	531.25	184.25	1.1249	0.6929	251.25	220.75
Jul-20	N	536.00	457.00	540.00	180.25	1.1309	0.6943	251.75	198.00

Basis (ct/bu)		Argentine	S. Australia	S. Australia	W. Aust. APW	W. Aust.	FSU	French	German	Baltic
Shipment	Futures	11.5%	APW 10.5%	AH 11.5%	10.5%	ASW 9%	12.50%	11.50%	12.50%	12.50%
		KCBT	CBOT	CBOT	CBOT	CBOT	Matiff	Matiff	Matiff	Matiff
		Upriver						Rouen		
Jun	N	-	-	-	-	-	-	-	-	-
Jul	N	-	-	-	-	-	-	-	-	-
Aug	U	-	-	-	-	-	-	-	-	-
Sep	U	-	-	-	-	-	-	-	-	-
Oct	Z	-	-	-	-	-	-	-	-	-
Nov	Z	-	-	-	-	-	-	-	-	-
Dec	Z	-	-	-	-	-	-	-	-	-
Jan	H	93	178	173	164	159	6	3.00	5.00	5.00
Feb	H	102	178	173	164	159	8	4.00	6.50	6.00
Mar	H	115	178	173	164	159	10	5.00	7.50	7.00
Apr	K	-	178	173	164	159	10	4.00	6.50	6.00
May	K	-	178	173	164	159	11	5.00	7.50	7.00
Flat Price FOB Vessel (USD/mt)		Argentine	S. Australia	S. Australia	W. Aust. APW	W. Aust.	FSU	French	German	Baltic
Shipment	Futures	11.5%	APW 10.5%	AH 11.5%	10.5%	ASW 9%	12.50%	11.50%	12.50%	12.50%
		CBOT	CBOT	CBOT	CBOT	CBOT	Matiff	Matiff	Matiff	Matiff
Jun	N	-	-	-	-	-	-	-	-	-
Jul	N	-	-	-	-	-	-	-	-	-
Aug	U	-	-	-	-	-	-	-	-	-
Sep	U	-	-	-	-	-	-	-	-	-
Oct	Z	-	-	-	-	-	-	-	-	-
Nov	Z	-	-	-	-	-	-	-	-	-
Dec	Z	-	-	-	-	-	-	-	-	-
Jan	H	197.00	260.25	258.25	255.25	253.25	212.00	208.32	210.56	210.56
Feb	H	200.00	260.25	258.25	255.25	253.25	214.00	209.44	212.24	211.68
Mar	H	205.00	260.25	258.25	255.25	253.25	216.00	210.56	213.35	212.79
Apr	K	-	261.25	259.25	256.25	254.25	218.00	211.75	214.57	214.00
May	K	-	261.25	259.25	256.25	254.25	220.00	212.88	215.69	215.13

Basis (ct/bu)		Canada T. B.	St. Law	Vancouver	Vancouver	Vancouver
Shipment	Futures	13.50%	#2, 13.5%	Canada	Canada	Canada
		MGEX	MGEX	#2 13.0%	#2 13.5%	#1 13.8%
				12.5% -15	250 FN	
				-40.00		40.00
Jun	N	-	-	-	-	-
Jul	N	-	-	-	-	-
Aug	U	-	-	-	-	-
Sep	U	-	-	-	-	-
Oct	Z	-	-	-	-	-
Nov	Z	-	-	-	-	-
Dec	Z	-	-	-	-	-
Jan	H	-	-	-	-	-
Feb	H	-	-	-	-	-
Mar	H	-	-	105.00	145.00	185.00
Apr	K	-	145.00	100.00	140.00	180.00
May	N	-	140.00	105.00	145.00	185.00
Flat Price FOB Vessel (USD/mt)		Canada T. B.	St. Law	Vancouver	Vancouver	Vancouver
Shipment	Futures	13.00%	#2, 13%	Canada	Canada	Canada
		MGEX	MGEX	#2 13.0%	#2 13.5%	#1 13.8%
Jun	N	-	-	-	-	-
Jul	N	-	-	-	-	-
Aug	U	-	-	-	-	-
Sep	U	-	-	-	-	-
Oct	Z	-	-	-	-	-
Nov	Z	-	-	-	-	-
Dec	Z	-	-	-	-	-
Jan	H	-	-	-	-	-
Feb	H	-	-	-	-	-
Mar	H	-	-	230.75	245.45	260.15
Apr	K	-	248.48	231.94	246.64	261.34
May	N	-	246.64	233.78	248.48	263.18

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12-Dec-19

Based upon 8 kmt/day load & 5 kmt/day unload, 3.75% commission, SHEX EIU

Destination Country (Port) (Vessel Size)	Freight Spread Using Houston As Baseline											
	Origin (Port)											
	S. Aust. (Adelaide)	W. Aust. (Kwinana)	PNW (Kalama)	Gulf (New Orleans)	Gulf (Houston)	Canada (Vancouver)	Canada (Montreal)	Russia (Novo)	Germany (Hamburg)	Poland (Gdansk)	France (La Pallice)	Argentina (UP+BB)
Indonesia (Jakarta) (50 kmt)	(30)	(33)	(21)	1	0	(24)	1	(10)	(5)	(5)	(6)	(11)
Brazil (Fortaleza) (30 kmt)	16	14	5	1	0	2	5	2	1	1	(1)	(1)
Egypt (Damietta) (60 kmt)	4	1	7	1	0	4	0	(12)	(6)	(6)	(7)	2
Saudi Arabia (Jeddah) (60 kmt)	(9)	(12)	(1)	1	0	(4)	1	(11)	(5)	(5)	(6)	-
Algeria (Algiers) (30 kmt, 3 kmt/day unlo	-	-	-	1	0	-	-	-	(6)	(6)	(8)	8
Morocco (Casa Blanca) (30 kmt)	-	-	-	1	0	-	-	(6)	(6)	(6)	(9)	7
Nigeria (Lagos) (40 kmt)	(1)	(3)	4	1	0	1	3	1	0	0	(2)	1
Kenya (Mombasa) (40 kmt)	(15)	(17)	4	1	0	1	2	(6)	(3)	(3)	(5)	(3)

Destination Protein/Class FOB	C&F Advantage/Disadvantage															
	Origin															
	S. Aust.	W. Aust.	W. Aust.	W. Aust.	PNW	PNW	PNW	Gulf	Vancouver	Montreal	Russia	Germany	Poland	France	Argentina	
	APW	AH2	APW	ASW	SWW	HRW	HRS	SRW	11.0% HRW	13.5%	13.5%	12.5%	12.5%	12.5%	11%	11.5%
	260	258	255	253	222	227	249	241	212	245	-	212	211	211	208	197
Indonesia (Jakarta) (50 kmt)	18	13	10	8	-11	-6	16	29	0	9	-	-10	-7	-7	-10	-26
Brazil (Fortaleza) (30 kmt)								29	0	35	-	2				-16
Egypt (Damietta) (60 kmt)					17	22		29	0		-	-12	-8	-8	-11	-13
Saudi Arabia (Jeddah) (60 kmt)	39	34	31	29	9	14	36		0	29	-	-11	-7	-7		
Algeria (Algiers) (30 kmt, 3 kmt/day unload)									0		-		-8	-8	-12	-7
Morocco (Casa Blanca) (30 kmt)									0		-	-6	-8	-8	-13	-8
Nigeria (Lagos) (40 kmt)	47	43	40	38					0	34	-	1	-2	-2		-14
Kenya (Mombasa) (40 kmt)	33	29	26	24					0	34	-	-6	-5	-5		-18

World Wheat FOB Comparisons										
Origin	<u>Russian</u>	<u>German</u>	<u>Baltic</u>	<u>Argentina</u>	<u>HRW</u>	<u>HRW</u>	<u>HRW</u>	<u>French</u>	<u>UK</u>	<u>SRW</u>
Protein (dmb)	12.50%	12.50%	12.50%	11.50%	12.50%	11.00%	10.20%	11.00%	11.00%	10.20%
Protein (12% mb)	11.00%	11.00%	11.00%	10.12%	11.00%	9.68%	9.00%	9.68%	9.68%	9.00%
Jan	\$212	\$211	\$211	\$197	\$212	\$210	\$209	\$208	\$215	\$241
Feb	\$214	\$212	\$212	\$200	\$212	\$210	\$209	\$209	\$217	\$243
Mar	\$216	\$213	\$213	\$205	\$212	\$210	\$209	\$211	\$218	\$244
Apr	\$218	\$215	\$214	-	\$213	\$211	\$210	\$212	\$220	\$245

World Wheat FOB Comparisons										
Origin	<u>APW</u>	<u>AH2</u>	<u>ASW</u>	<u>HRW PNW</u>	<u>HRW PNW</u>	<u>SWW</u>	<u>NS</u>	<u>NS</u>	<u>CWRS</u>	<u>CWRS</u>
Protein (dmb)	11.80%	12.90%	10.10%	12.00%	13.10%	12.00%	15.30%	15.90%	15.50%	15.90%
Protein (local)	10.50%	11.50%	9.00%	10.50%	11.50%	10.50%	13.50%	14.00%	13.50%	13.80%
Jan	\$255	\$258	\$253	\$221	\$227	\$222	\$249	\$253	-	-
Feb	\$255	\$258	\$253	\$223	\$229	\$224	\$249	\$253	-	-
Mar	\$255	\$258	\$253	\$223	\$229	\$226	\$251	\$255	\$245	\$260
Apr	\$256	\$259	\$254	\$226	\$232	\$228	\$252	\$256	\$247	\$261

12-Dec-19

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Price=USD		Spread Analysis		
Delivery Month		H	K	N
Starts		1-Mar	1-May	1-Jul
Ends		1-May	1-Jul	1-Sep
Total Days		61	61	62
Corn Closing Price		377.75	384.25	390.00
Storage rate		0.265	0.265	0.265
Total Storage		16.17	16.17	16.43
Total Interest		2.49	2.53	2.61
Full Carry		18.65	18.70	19.04
Spread Close		-6.50	-5.75	-0.25
% Full Carry		35%	31%	1%
CME W Closing Price		530.25	533.00	536.00
Storage rate		0.165	0.165	0.165
Total Storage		10.07	10.07	10.23
Total Interest		3.49	3.51	3.59
Full Carry		13.56	13.58	13.82
Spread Close		-2.75	-3.00	-6.0
% Full Carry		20%	22%	43%
KCBT Closing Price		442.75	450.25	457.00
Storage rate		0.165	0.165	0.165
Total Storage		10.07	10.07	10.23
Total Interest		2.92	2.97	3.06
Full Carry		12.98	13.03	13.29
Spread Close		-7.50	-6.75	-8.50
% Full Carry		58%	52%	64%
MGEX Closing Price		523.00	531.25	540.00
Storage rate		0.233	0.233	0.233
Total Storage		14.21	14.21	14.45
Total Interest		3.44	3.50	3.62
Full Carry		17.66	17.71	18.06
Spread Close		-8.25	-8.75	-9.00
% Full Carry		47%	49%	50%

VSR INCREASES		H	K	N	U	Z
CME VSR (ct/bu)	Spread	H-K	K-N	N-U	U-Z	Z-H
Futures Close Price	Days	530.25	533.00	536.00	542.00	551.75
Base Storage	0.165	10.07	10.07	10.23	15.02	14.85
H-K (increase .10)	61	4.30	6.10	6.20	9.10	9.00
K-N (increase .10)	61		4.30	6.20	9.10	9.00
N-U (increase .10)	62			4.40	9.10	9.00
U-Z (increase .10)	91				7.30	9.00
Z-H (increase .10)	90					7.20
Total Storage		14.37	20.47	27.03	49.62	58.05
Interest Charge	3.89%	3.49	3.51	3.59	5.33	5.36
Full Carry B4 VSR		13.56	13.58	13.82	20.34	20.21
Closing Board Spread		2.75	3.00	6.00	9.75	9.25
Closing Spread % FC		20%	22%	43%	48%	46%

VSR INCREASES		H	K	N	U	Z
KCBT VSR (ct/bu)	Spread	H-K	K-N	N-U	U-Z	Z-H
Futures Close Price	Days	442.75	450.25	457.00	465.50	477.75
Base Storage	0.165	10.07	10.07	10.23	15.02	14.85
H-K (increase .10)	61	4.30	6.10	6.20	9.10	9.00
K-N (increase .10)	61		4.30	6.20	9.10	9.00
N-U (increase .10)	62			4.40	9.10	9.00
U-Z (increase .10)	91				7.30	9.00
Z-H (increase .10)	90					7.20
Total Storage		14.37	20.47	27.03	49.62	58.05
Interest Charge	3.89%	2.92	2.97	3.06	4.57	4.64
Full Carry B4 VSR		12.98	13.03	13.29	19.59	19.49
Closing Board Spread		7.50	6.75	8.50	12.25	12.50
Closing Spread % FC		58%	52%	64%	63%	64%

VSR DECREASES		H	K	N	U	Z
CME VSR (ct/bu)	Spread	H-K	K-N	N-U	U-Z	Z-H
Futures Close Price	Days	530.25	533.00	536.00	542.00	551.75
Base Storage	0.165	10.07	10.07	10.23	15.02	14.85
H-K (decrease .10)	61	*	*	*	*	*
K-N (decrease .10)	61		*	*	*	*
N-U (decrease .10)	62			*	*	*
U-Z (decrease .10)	91				*	*
Z-H (decrease .10)	90					*
Total Storage		10.07	10.07	10.23	15.02	14.85
Interest Charge	3.89%	3.49	3.51	3.59	5.33	5.36
Full Carry B4 VSR		13.56	13.58	13.82	20.34	20.21
Closing Board Spread		2.75	3.00	6.00	9.75	9.25
Closing Spread % FC		20%	22%	43%	48%	46%

* VSR could not decrease any further because it would already be at the minimum storage rate of 0.165 ct/bu/day

VSR DECREASES		H	K	N	U	Z
KCBT VSR (ct/bu)	Spread	H-K	K-N	N-U	U-Z	Z-H
Futures Close Price	Days	442.75	450.25	457.00	465.50	477.75
Base Storage	0.165	10.07	10.07	10.23	15.02	14.85
H-K (decrease .10)	61	*	*	*	*	*
K-N (decrease .10)	61		*	*	*	*
N-U (decrease .10)	62			*	*	*
U-Z (decrease .10)	91				*	*
Z-H (decrease .10)	90					*
Total Storage		10.07	10.07	10.23	15.02	14.85
Interest Charge	3.89%	2.92	2.97	3.06	4.57	4.64
Full Carry B4 VSR		12.98	13.03	13.29	19.59	19.49
Closing Board Spread		7.50	6.75	8.50	12.25	12.50
Closing Spread % FC		58%	52%	64%	63%	64%

* VSR could not decrease any further because it would already be at the minimum storage rate of 0.165 ct/bu/day

561.00

490.25

12-Dec-19

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Wheat vs Corn Feeding Relationship

	SW Kansas			SE Colorado		Texas Panhandle		North Carolina	
	HRW	Milo	Corn	HRW	Corn	HRW	Corn	SRW	Corn
Basis	-55.00	-65.00	-13.00	-50.75	3.25	-20.75	53.25	-68.25	64.25
Futures	442.75	377.75	377.75	442.75	377.75	442.75	377.75	530.25	377.75
Flat Price	387.75	312.75	364.75	392.00	381.00	422.00	431.00	462.00	442.00
Flat Price (mt)	142.47	123.12	143.60	144.04	149.99	155.06	169.68	169.76	174.01
Wheat/Corn	99%	86%		96%		91%		98%	

12-Dec-19

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Price=USD	KCBT Delivery Calculations (BN Freight)								
	Taker Gulf (24-48 heavy cars)			Delivered Gulf (Shuttle/Heavy)			Delivered KC (1-23 heavy cars)		
	Hutchinson	Salina	Wichita	Hutchinson	Salina	Wichita	Hutchinson	Salina	Wichita
11.0% Protein									
Delivery Differential	-9.00	-12.00	-6.00	-9.00	-12.00	-6.00	-9.00	-12.00	-6.00
Protein Discount for 10.5% (-10 ct)									
Del. Loadout Charge	8.00	8.00	8.00	8.00	8.00	8.00	8.00	8.00	8.00
Misc. Costs	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Delivery Value	1.00	-2.00	4.00	1.00	-2.00	4.00	1.00	-2.00	4.00
Tariff Rate (\$/car)	5887.00	5990.00	5792.00	4454.00	4555.00	4361.00	4457.00	4473.00	4450.00
Tariff Rate (c/bu)	159.11	161.89	156.54	120.38	123.11	117.86	120.46	120.89	120.27
Mileage Houston, TX	688.00	761.00	632.00	688.00	761.00	632.00	-	-	-
Rail Cost (c/bu)	0.00	0.00	0.00	-1.35	-1.35	-1.35	0.00	0.00	0.00
Freight Cost (c/bu)	159.11	161.89	156.54	119.03	121.76	116.51	120.46	120.89	120.27
Delivered Value	160.11	159.89	160.54	120.03	119.76	120.51	121.46	118.89	124.27
Delivered bid (10.5% protein)	120.00	120.00	120.00	120.00	120.00	120.00	122.00	122.00	122.00
Cash vs. Delivery	-40.11	-39.89	-40.54	-0.03	0.24	-0.51	0.54	3.11	-2.27
# of Days in Storage	31	31	31	31	31	31	31	31	31
Storage Cost	8.22	8.22	8.22	8.22	8.22	8.22	8.22	8.22	8.22
Futures	465.50	465.50	465.50	465.50	465.50	465.50	465.50	465.50	465.50
Interest Cost	1.56	1.56	1.56	1.56	1.56	1.56	1.56	1.56	1.56
TTL Est. Carry Cost	9.77	9.77	9.77	9.77	9.77	9.77	9.77	9.77	9.77
Cash vs. Delivery	-49.88	-49.67	-50.31	-9.80	-9.53	-10.29	-9.23	-6.67	-12.04

Cascade Commodity Consulting Company

12-Dec-19

CBOT Wheat Delivery Calculations

<i>Price=USD</i>	Ohio River	MTCT	Chicago (river)	St. Louis	Chicago (domestic)	Toledo / Bellevue	NW OH
Delivery Differential	0.00	20.00	0.00	10.00	0.00	0.00	-10.00
Del. Loadout Charge	6.00	6.00	6.00	6.00	6.00	6.00	6.00
Misc. Costs	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Delivery Value	8.00	28.00	8.00	18.00	8.00	8.00	-2.00
Barge Freight	260%	230%	355%	245%	NA	NA	NA
Tarriff	12.00	9.40	17.30	12.00	NA	NA	NA
Barge Freight (c/bu)/ Lakes	31.20	21.62	61.42	29.40	NA	NA	NA
Delivered Value	39.20	49.62	69.42	47.40	8.00	8.00	-2.00
Delivered Gulf / FOB Elevator	120.00	120.00	120.00	120.00	65.00	35.00	35.00
Cash vs. Delivery	80.80	70.38	50.59	72.60	57.00	27.00	37.00
# of Days in Storage	31	31	31	31	31	31	31
Storage Cost	5.12	5.12	5.12	5.12	5.12	5.12	5.12
Futures	530.25	530.25	530.25	530.25	530.25	530.25	530.25
Interest Cost	1.77	1.77	1.77	1.77	1.77	1.77	1.77
TTL Est. Carry Cost	6.89	6.89	6.89	6.89	6.89	6.89	6.89
Cash vs. Delivery	73.91	63.49	43.70	65.71	50.11	20.11	30.11

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12-Dec-19

Cascade Commodity Consulting Company

MGEX Delivery Calculations

Price=USD	Delivered Chicago Gateway		Duluth Replacement*
	Duluth (BNSF) 110 cars	Duluth (CP) Single/25 cars	Duluth (CP) DETS (FOB Dul/Sup)*
13.5% Protein			
Delivery Differential	3.00	3.00	3.00
Protein discount for 13.0% (-3 ct)	-3.00	-3.00	-3.00
Del. Loadout Charge	8.00	8.00	8.00
Test Wt	2.00	2.00	2.00
Misc. Costs	2.00	2.00	2.00
Delivery Value	15.000	15.000	15.000
Tariff Rate	2408.00	2299.00	N/A
Tariff Rate (c/bu)	65.08	62.14	0.00
Rail Cost	4.05	2.70	N/A
Freight Cost (c/bu) (Dul -18.25)	69.14	64.84	-35.00
Delivered Value	84.14	79.84	45.00
Del. Chicago Gateway Bid (No FN)	80.00	80.00	80.00
Cash vs. Delivery	-4.14	0.16	30.00
# of Days in Storage	31.00	31.00	31.00
Storage Cost	7.00	7.00	7.00
Futures	563.00	563.00	563.00
Interest Cost	1.88	1.88	N/A
TTL Est. Carry Cost	8.88	8.88	N/A
Cash vs. Delivery	-13.02	-8.72	N/A

* Duluth replacement = Chicago Gateway Delivery less \$1,300/car (-35.00 ct/bu) for single cars
 FOB Lakes = Duluth replacement + Elevation

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Price=USD

CBOT Corn Delivery Calculations

Illinois River	Zone 1	Zone 2	Zone 3	Zone 4
Delivery Differential	0.00	2.00	2.50	3.00
Del. Loadout Charge	6.00	6.00	6.00	6.00
Misc. Costs	0.00	0.00	0.00	0.00
Delivery Value	6.00	8.00	8.50	9.00
Barge Rate	395%	395%	395%	395%
Tarriff	16.20	14.70	14.25	13.50
Barge Freight (ct/bu)	63.99	58.07	56.29	53.33
Delivered Value	69.99	66.07	64.79	62.33
Delivered Bid	55.00	55.00	55.00	55.00
Cash vs. Delivery	-14.99	-11.07	-9.79	-7.33
# of Days in Storage	31.00	31.00	31.00	31.00
Storage Cost	5.00	5.00	5.00	5.00
Futures	393.25	393.25	393.25	393.25
Interest Cost	1.316	1.316	1.316	1.316
TTL Est. Carry Cost	6.32	6.32	6.32	6.32
Cash vs. Delivery	-21.31	-17.38	-16.10	-13.64

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Deliverable Stocks as of December 6, 2019

Date	6-Dec	Wk Ago	Change	YR Ago
KCBT	96,952	99,059	(2,107)	117,097
CBOT	40,885	41,597	(712)	73,572
MGEX	19,840	20,894	(1,054)	16,144

KCBT Deliverable Wheat Stocks

Date	6-Dec	Wk Ago	Change	YR Ago
Hutchinson	24,670	24,805	(135)	28,538
KC	12,241	12,404	(163)	11,551
Salina	27,842	28,240	(398)	35,063
Wichita	32,199	33,610	(1,411)	41,945
Total	96,952	99,059	(2,107)	117,097

CBOT Deliverable & Non-Deliverable Wheat Stocks

Date	6-Dec	Wk Ago	Change	YR Ago
Chicago	3,786	3,877	(91)	8,604
Miss. River	4,662	4,663	(1)	13,116
NW Ohio	8,884	8,981	(97)	10,942
Ohio River	1,624	1,660	(36)	11,115
St. Louis	1,822	1,801	21	2,191
Toledo	20,107	20,615	(508)	27,604
Total	40,885	41,597	(712)	73,572
Non-Deliver	6,569	6,707	(138)	9,189
Net-Deliver	34,316	34,890	(574)	64,383

MGEX Deliverable Wheat Stocks

Date	6-Dec	Wk Ago	Change	YR Ago
Mpls	3,569	3,694	(125)	1,395
Duluth	16,271	17,200	(929)	14,749
Total	19,840	20,894	(1,054)	16,144

10/10/2019

CHICAGO SRW WHEAT VSR

Variable Storage Rate December 2019 - March 2020 Calculation Period

December 2019 First Delivery Day 12/2/2019
 March 2020 First Delivery Day 3/2/2020
 Number of Carry Days 91
 Storage Rate Used in Calculation \$0.00165/bu/day
 Running Average Percent of Full Carry 28.32%

Date	Dec 2019 Contract Price	Mar 2020 Contract Price	3M LIBOR Plus 200 Basis Points	Financial Full Carry	Sep19-Dec19 Spread	Sep-Dec Spread as % of Full Carry
9/19/2019	\$4.8800	\$4.9425	4.15888	0.201452	0.0625	31.0%
9/20/2019	\$4.8425	\$4.9100	4.13463	0.200761	0.0675	33.6%
9/23/2019	\$4.8300	\$4.9000	4.10625	0.200284	0.0700	35.0%
9/24/2019	\$4.8175	\$4.8850	4.11300	0.200236	0.0675	33.7%
9/25/2019	\$4.7725	\$4.8375	4.09963	0.199607	0.0650	32.6%
9/26/2019	\$4.8425	\$4.9025	4.10438	0.200391	0.0600	29.9%
9/27/2019	\$4.8725	\$4.9375	4.09863	0.200631	0.0650	32.4%
9/30/2019	\$4.9575	\$5.0250	4.08513	0.201343	0.0675	33.5%
10/1/2019	\$4.9875	\$5.0575	4.08863	0.201697	0.0700	34.7%
10/2/2019	\$4.8900	\$4.9625	4.05638	0.200290	0.0725	36.2%
10/3/2019	\$4.8875	\$4.9625	4.04313	0.200101	0.0750	37.5%
10/4/2019	\$4.9050	\$4.9750	4.02700	0.200080	0.0700	35.0%
10/7/2019	\$4.8925	\$4.9650	4.01200	0.199767	0.0725	36.3%
10/8/2019	\$5.0025	\$5.0775	4.00950	0.200851	0.0750	37.3%
10/9/2019	\$5.0025	\$5.0700	3.98425	0.200532	0.0675	33.7%
10/10/2019	\$4.9300	\$4.9975	3.98613	0.199825	0.0675	33.8%
10/11/2019	\$5.0800	\$5.1400	4.00088	0.201526	0.0600	29.8%
10/14/2019	\$5.1100	\$5.1675	4.00088	0.201829	0.0575	28.5%
10/15/2019	\$5.0700	\$5.1325	4.00213	0.201441	0.0625	31.0%
10/16/2019	\$5.1325	\$5.1825	4.00325	0.202087	0.0500	24.7%
10/17/2019	\$5.2550	\$5.3025	3.96588	0.202831	0.0475	23.4%
10/18/2019	\$5.3225	\$5.3700	3.95325	0.203337	0.0475	23.4%
10/21/2019	\$5.2350	\$5.2950	3.93400	0.202208	0.0600	29.7%
10/22/2019	\$5.1800	\$5.2425	3.93600	0.201688	0.0625	31.0%
10/23/2019	\$5.2075	\$5.2600	3.93963	0.202009	0.0525	26.0%
10/24/2019	\$5.1600	\$5.2125	3.93563	0.201484	0.0525	26.1%
10/25/2019	\$5.1775	\$5.2350	3.92813	0.201560	0.0575	28.5%
10/28/2019	\$5.1175	\$5.1800	3.93550	0.201059	0.0625	31.1%
10/29/2019	\$5.1150	\$5.1750	3.92713	0.200926	0.0600	29.9%
10/30/2019	\$5.0925	\$5.1500	3.90913	0.200471	0.0575	28.7%
10/31/2019	\$5.0875	\$5.1475	3.90225	0.200333	0.0600	30.0%
11/1/2019	\$5.1600	\$5.2175	3.89050	0.200895	0.0575	28.6%
11/4/2019	\$5.0975	\$5.1625	3.90825	0.200509	0.0650	32.4%
11/5/2019	\$5.1525	\$5.2025	3.89350	0.200860	0.0500	24.9%
11/6/2019	\$5.1675	\$5.2150	3.90425	0.201148	0.0475	23.6%
11/7/2019	\$5.1250	\$5.1725	3.90138	0.200692	0.0475	23.7%
11/8/2019	\$5.1025	\$5.1425	3.90063	0.200460	0.0400	20.0%
11/11/2019	\$5.0575	\$5.1050	3.90463	0.200068	0.0475	23.7%
11/12/2019	\$5.1700	\$5.2175	3.90925	0.201238	0.0475	23.6%
11/13/2019	\$5.0900	\$5.1375	3.90988	0.200456	0.0475	23.7%
11/14/2019	\$5.0775	\$5.1100	3.90413	0.200259	0.0325	16.2%
11/15/2019	\$5.0275	\$5.0600	3.90263	0.199746	0.0325	16.3%
11/18/2019	\$5.0725	\$5.1075	3.89850	0.200137	0.0350	17.5%
11/19/2019	\$5.1200	\$5.1525	3.89463	0.200555	0.0325	16.2%
11/20/2019	\$5.1550	\$5.1875	3.89875	0.200953	0.0325	16.2%
11/21/2019				0.150150	0.0000	0.0%
11/22/2019				0.150150	0.0000	0.0%

Results:

Current Maximum Premium (Storage) Charge: \$0.00165/bu/day

If the Running Average Percent of Full Carry on 11/22/2019 is 80% or greater, the Maximum Premium (Storage) Charge will increase to \$0.00265 on 12/19/2019

If the Running Average Percent of Full Carry on 11/22/2019 is greater than 50% and less than 80%, the Maximum Premium (Storage) Charge will remain at \$0.00165/bu/day on 12/19/2019

If the Running Average Percent of Full Carry on 11/22/2019 is 50% or Less, the Maximum Premium (Storage) Charge will remain at \$0.00165/bu/day on 12/19/2019

11/21/2019

KANSAS CITY HRW WHEAT VSR

Variable Storage Rate December 2019 - March 2020 Calculation Period

September 2019 First Delivery Day 12/2/2019
 March 2020 First Delivery Day 3/2/2020
 Number of Carry Days 91
 Storage Rate Used in Calculation \$0.00265/bu/day
 Running Average Percent of Full Carry 41.89%

Date	Dec 2019 Contract Price	Mar 2020 Contract Price	3M LIBOR Plus 200 Basis Points	Financial Full Carry	Sep19-Dec19 Spread	Sep-Dec Spread as % of Full Carry
9/19/2019	\$4.0950	\$4.2325	4.15888	0.284200	0.1375	48.4%
9/20/2019	\$4.0750	\$4.2100	4.13463	0.283740	0.1350	47.6%
9/23/2019	\$4.0650	\$4.1975	4.10625	0.283343	0.1325	46.8%
9/24/2019	\$4.0500	\$4.1850	4.11300	0.283257	0.1350	47.7%
9/25/2019	\$4.0400	\$4.1725	4.09963	0.283016	0.1325	46.8%
9/26/2019	\$4.0825	\$4.2150	4.10438	0.283506	0.1325	46.7%
9/27/2019	\$4.0750	\$4.2075	4.09863	0.283369	0.1325	46.8%
9/30/2019	\$4.1500	\$4.2825	4.08513	0.284004	0.1325	46.7%
10/1/2019	\$4.1150	\$4.2400	4.08863	0.283679	0.1250	44.1%
10/2/2019	\$4.0575	\$4.1950	4.05638	0.282754	0.1375	48.6%
10/3/2019	\$4.0575	\$4.2025	4.04313	0.282618	0.1450	51.3%
10/4/2019	\$4.0400	\$4.1850	4.02700	0.282275	0.1450	51.4%
10/7/2019	\$4.0225	\$4.1700	4.01200	0.281944	0.1475	52.3%
10/8/2019	\$4.1025	\$4.2425	4.00950	0.282729	0.1400	49.5%
10/9/2019	\$4.1325	\$4.2625	3.98425	0.282770	0.1300	46.0%
10/10/2019	\$4.0325	\$4.1650	3.98613	0.281782	0.1325	47.0%
10/11/2019	\$4.1950	\$4.3200	4.00088	0.283575	0.1250	44.1%
10/14/2019	\$4.2575	\$4.3775	4.00088	0.284208	0.1200	42.2%
10/15/2019	\$4.2125	\$4.3425	4.00213	0.283766	0.1300	45.8%
10/16/2019	\$4.2500	\$4.3775	4.00325	0.284157	0.1275	44.9%
10/17/2019	\$4.3125	\$4.4400	3.96588	0.284382	0.1275	44.8%
10/18/2019	\$4.3375	\$4.4600	3.95325	0.284494	0.1225	43.1%
10/21/2019	\$4.2550	\$4.3850	3.93400	0.283463	0.1300	45.9%
10/22/2019	\$4.2125	\$4.3475	3.93600	0.283062	0.1350	47.7%
10/23/2019	\$4.2325	\$4.3700	3.93963	0.283299	0.1375	48.5%
10/24/2019	\$4.1950	\$4.3275	3.93563	0.282884	0.1325	46.8%
10/25/2019	\$4.2275	\$4.3575	3.92813	0.283127	0.1300	45.9%
10/28/2019	\$4.1700	\$4.3000	3.93550	0.282633	0.1300	46.0%
10/29/2019	\$4.1900	\$4.3150	3.92713	0.282744	0.1250	44.2%
10/30/2019	\$4.1825	\$4.3050	3.90913	0.282479	0.1225	43.4%
10/31/2019	\$4.1975	\$4.3225	3.90225	0.282554	0.1250	44.2%
11/1/2019	\$4.2600	\$4.3875	3.89050	0.283044	0.1275	45.0%
11/4/2019	\$4.2300	\$4.3550	3.90825	0.282939	0.1250	44.2%
11/5/2019	\$4.2850	\$4.3950	3.89350	0.283323	0.1100	38.8%
11/6/2019	\$4.2775	\$4.3775	3.90425	0.283365	0.1000	35.3%
11/7/2019	\$4.2475	\$4.3350	3.90138	0.283038	0.0875	30.9%
11/8/2019	\$4.2150	\$4.3050	3.90063	0.282710	0.0900	31.8%
11/11/2019	\$4.2275	\$4.3000	3.90463	0.282876	0.0725	25.6%
11/12/2019	\$4.3875	\$4.4550	3.90925	0.284506	0.0675	23.7%
11/13/2019	\$4.2475	\$4.3325	3.90988	0.283129	0.0850	30.0%
11/14/2019	\$4.2225	\$4.3075	3.90413	0.282821	0.0850	30.1%
11/15/2019	\$4.1700	\$4.2575	3.90263	0.282287	0.0875	31.0%
11/18/2019	\$4.1850	\$4.2625	3.89850	0.282391	0.0775	27.4%
11/19/2019	\$4.2575	\$4.3175	3.89463	0.283064	0.0600	21.2%
11/20/2019	\$4.2600	\$4.3300	3.89875	0.283133	0.0700	24.7%
11/21/2019				0.241150	0.0000	0.0%
11/22/2019				0.241150	0.0000	0.0%

Needed to reverse the VSR
 232.52% Percent of full carry
 0.658341 Spread average

Results:

Current Maximum Premium (Storage) Charge: \$0.00265/bu/day

If the Running Average Percent of Full Carry on 11/22/2019 is 80% or greater, the Maximum Premium (Storage) Charge will increase to \$0.00365 on 12/19/2019

If the Running Average Percent of Full Carry on 11/22/2019 is greater than 50% and less than 80%, the Maximum Premium (Storage) Charge will remain at \$0.00265/bu/day on 12/19/2019

If the Running Average Percent of Full Carry on 11/22/2019 is 50% or Less, the Maximum Premium (Storage) Charge will decline to \$0.00165/bu/day on 12/19/2019

Hastings, NE	Gulf	Gulf	*KC DOM	Gulf
Basis KWH	\$ 1.35	\$ 1.35	\$ 1.06	\$ 1.35
Shuttle /DET Freight	\$ 1.32	\$ 1.32	\$ 0.12	\$ 1.32
FOB elev	\$ 0.03	\$ 0.03	\$ 1.18	\$ 0.03
Rate	Chicago	St. Louis	St. Louis	Memphis
DET	\$ 1.16	\$ 1.16		\$ 1.23
Single car	\$ 1.28	\$ 1.32		\$ 1.38
Shuttle Rate	\$ 1.07	\$ 1.07		\$ 1.12
Del DET train	\$ 1.18	\$ 1.19		\$ 1.25
Del Single car	\$ 1.31	\$ 1.35		\$ 1.41
Del Shuttle train	\$ 1.10	\$ 1.10		\$ 1.14
KWH-WZ spread	\$ (0.97)	\$ (0.97)	\$ (0.97)	\$ (0.97)
Basis WHO	\$ 0.22	\$ 0.13	\$ 0.22	\$ 0.18
Delivery	\$ 0.06	\$ 0.16	\$ 0.16	\$ 0.26
difference	\$ 0.16	\$ (0.03)	\$ 0.06	\$ (0.08)

*KC domestic is HRW delivered to ST. LOUIS vs stopping WHO

The KC ord bid is an estimate, there is no bid.