

# The Causes and Effects of Wide Kansas Wheat Basis Bids

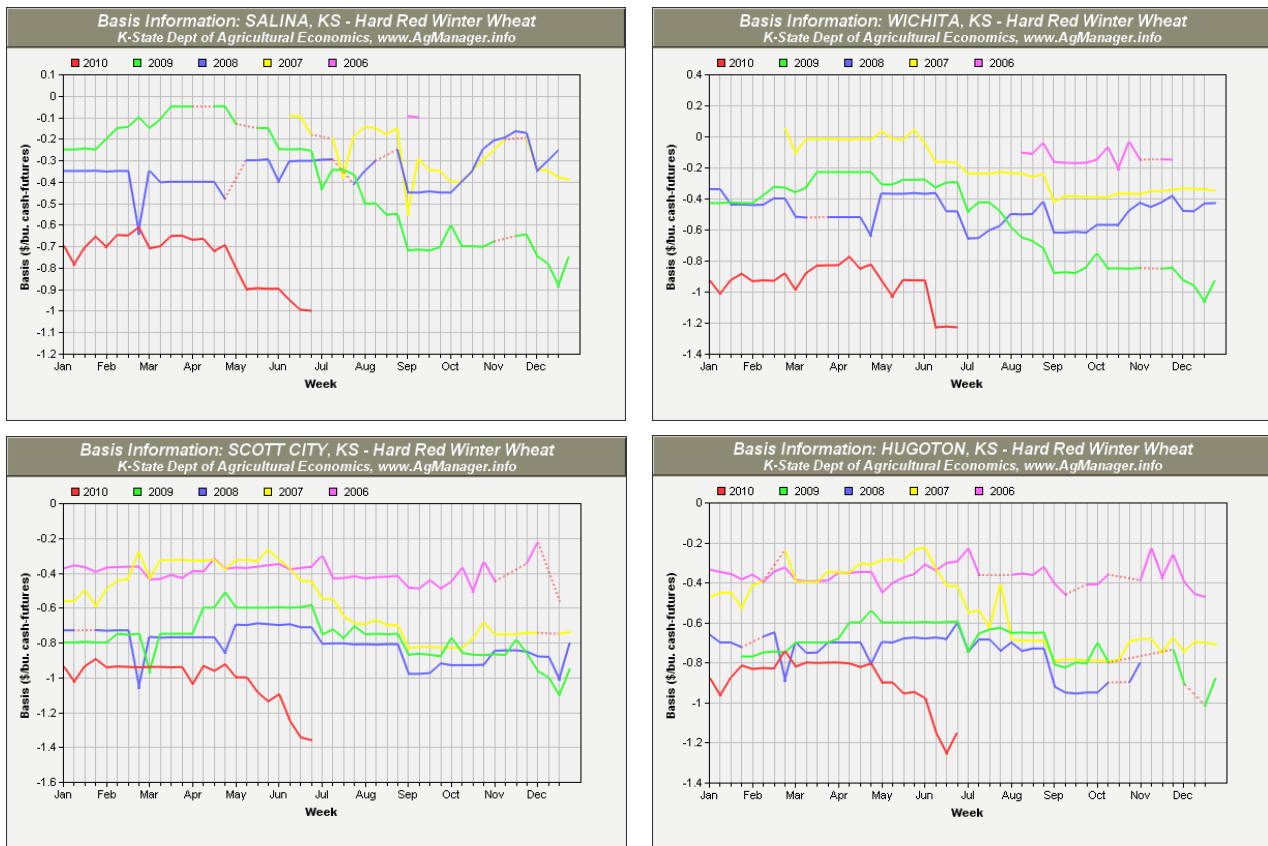
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June 29, 2010

## The Situation – Wider Wheat Basis

The cash basis differential between Kansas cash wheat prices and JULY 2010 KCBT wheat futures has widened sharply since mid-June, increasing to as much as \$1.20 - \$1.35 per bushel under futures in western Kansas and to \$1.00 - \$1.20 under futures in central Kansas. These basis levels were as much as \$0.55-\$0.60 per bushel wider than Kansas cash wheat basis bids have been during June in any year since at least 1998. Figure 1 shows wheat cash basis bids for selected locations in Salina and Wichita in Central Kansas, and for Hugoton and Scott City in western Kansas since year 2006.

**Figure 1. Wheat Basis History for Selected Central & Western Kansas Locations for Years 2006-10**  
(Source: [www.agmanager.info](http://www.agmanager.info))



## Questions about the Cause of Wider Wheat Basis Levels

Wide cash wheat basis levels in Kansas and other parts of the U.S. southern and central plains has raised questions about the factors that are affecting the levels of both wheat futures and cash markets.

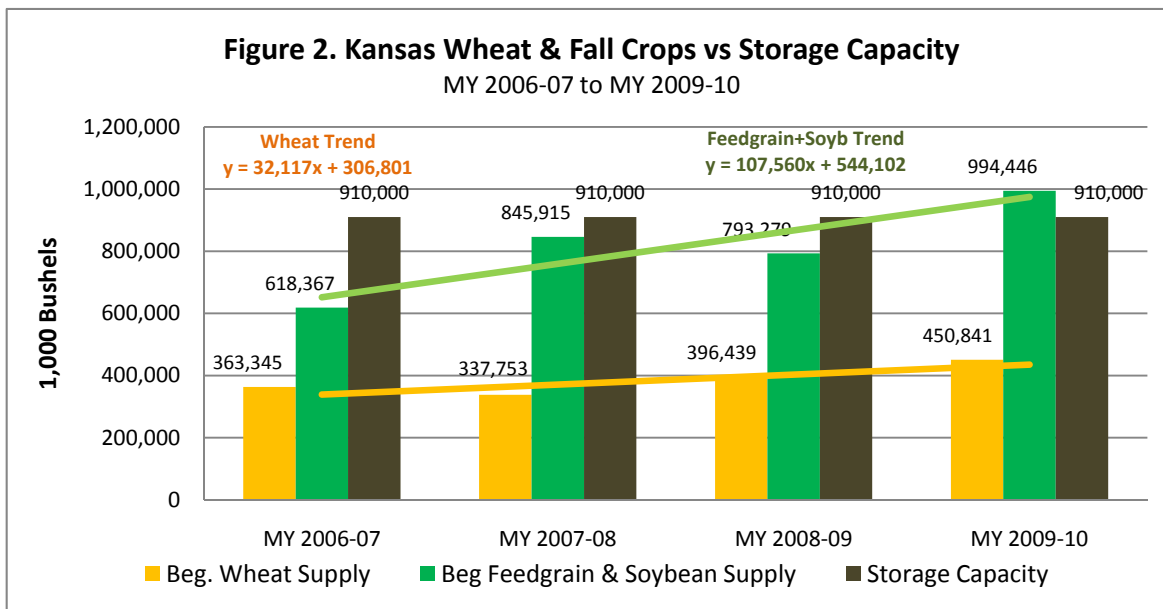
There are questions about the degree to which local, domestic and world wheat supply-demand factors explain the widening of wheat basis bids.

Questions have also emerged about the effectiveness of mechanisms and processes designed to bring about convergence between cash HRW wheat prices and KCBT futures, and whether they are functioning as intended. In particular, there is great interest in regards to the delivery process for sellers of KCBT wheat futures contracts, and about the potential impact that variable as opposed to fixed grain storage rates on delivered grain would have on wheat cash-futures price convergence.

## The Impact of Wheat Supply-Demand Factors on Kansas Wheat Cash Prices and Basis

Preliminary examination seems to indicate that a combination of both wheat supply-demand factors and issues related to the KCBT futures delivery process may be affecting Kansas cash wheat basis levels at this time. Unquestionably, wheat market supply-demand and seasonal market factors have had a negative effect on Kansas cash wheat prices during the harvest of 2010. Overburdening wheat supplies in both U.S. and world markets, an accumulation of wheat and feedgrain supplies and tightening storage space in Kansas grain elevators over the last 2-3 marketing years (Figure 2), the cumulative effect of medium-to-low protein hard red winter wheat in the U.S. since MY 2007-08 (Table 1), and weak exports markets for U.S. wheat have worked together to cause HRW wheat prices to decline sharply since early May at many Kansas grain elevator locations.

Figure 2 shows the growth in total supplies of Kansas wheat and fall crops (corn, grain sorghum and soybeans) from MY 2006-07 through MY 2009-10 relative to estimated off-farm storage space in Kansas grain elevators.



In these calculations, beginning stocks of the major Kansas grains were added to annual production to estimate total supplies of Kansas grains by category. Estimates of Kansas grain storage capacity were estimated using Kansas Grain and Feed Association directory data for 2008, and were assumed to be representative of MY 2006-07 through MY 2009-10.

Kansas hard red winter wheat protein levels were estimated by U.S. Wheat Associates from actual samples in the areas designated (Table 1). (Source: <http://www.uswheat.org/reports/cropQuality>) See the US Wheat Associates website for a full description of the methods they used to measure protein levels in HRW wheat.

**Table 1. Kansas Wheat Protein Estimates**

(Source: <http://www.uswheat.org/reports/cropQuality>)

Area of Kansas	2006	2007	2008	2009
K1 – Hugoton	12.5%	9.0%	13.4%	12.4%
K2 – Garden City	13.0%	9.6%	13.4%	12.0%
K3 – Dodge City	13.2%	9.9%	13.1%	11.9%
K4 – Great Bend	11.7%	10.8%	11.6%	11.4%
K5 – Wichita	12.0%	10.5%	12.2%	11.4%
K6 – Colby	12.9%	9.9%	13.1%	11.8%
K7 – Hill City	12.9%	9.8%	12.6%	11.6%
K8 – Salina	11.9%	10.5%	11.9%	11.9%
K9 – Concordia	12.6%	10.0%	12.1%	11.9%
K10 – Topeka/NE	na	na	12.5%	11.4%

Large declines in Texas Gulf wheat export terminal prices since April are indicative of weak export markets for HRW wheat, which likely reflects the impact of world currency fluctuations (i.e., a stronger U.S. dollar relative to other world currencies) and world wheat supply-demand issues – including the lower protein quality of available old crop HRW wheat supplies (Figure 3).

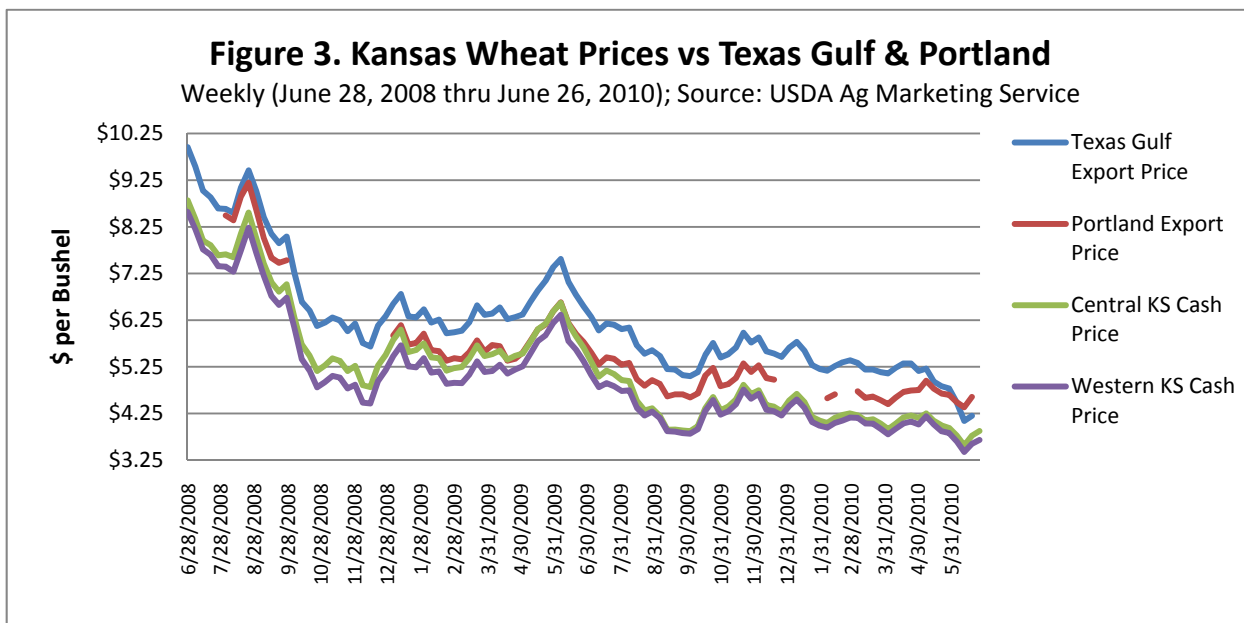


Figure 3 indicates that wheat prices or bids in central and western Kansas have actually fallen less proportionally than Texas Gulf export prices since mid-April.

Also, in years of normal or large wheat supplies, it is typical for cash HRW wheat price bids in Kansas to decline during the harvest season in response to temporary over-supply conditions, but eventually then to rebound after harvest is completed, if for no other reason than Kansas wheat producers reluctance to sell cash wheat at harvest price lows. See historic seasonal price trends for Kansas wheat in the downloadable spreadsheet file "GrainsSeasonalsCash.xls" at <http://www.agmanager.info/marketing/decisions/>.

Take together, these wheat supply-demand factors have negatively affected cash wheat prices so far in 2010, and are likely to have also had some effect on the widening basis relationship between HRW wheat cash and futures prices in recent months.

### **Questions About HRW Wheat Futures Delivery Mechanisms & Non-Convergence**

In regards to the issue of the convergence of Kansas cash wheat and futures prices, it should be noted that the mechanism of delivering on short futures contract positions for futures contracts in general is intended to cause and help ensure the convergence of cash and futures prices. In recent months questions have arisen in regards to the ability of farmers, grain elevators and other grain industry participants to obtain warehouse receipts necessary for participation in the process of delivering on KCBT wheat futures contracts.

In order to deliver wheat on short futures positions, futures contract sellers must obtain warehouse receipts from designated HRW wheat delivery point grain elevators that are willing to accept grain for open storage in the proper quantities (5,000 bushel units) and according to proper wheat quality measurements and conditions spelled out in the KCBT wheat futures contract . See selected information on contract specifications for Kansas City Hard Red Winter Wheat futures in Appendix A at the end of this article.

### **Limited Storage Space in Kansas Grain Elevators – Including HRW Wheat Futures Delivery Points**

With limited storage space available for the 2010 HRW wheat crop throughout Kansas (including delivery point elevators) and the risk of being unable to move large quantities of 2010 wheat through marketing channels after harvest, delivery point elevators are seemingly reluctant to award or grant warehouse receipts to farmers and other short sellers of new crop 2010 wheat futures contracts. Refer to Figure 2 above for information on grain supplies and off farm storage grain storage capacity in Kansas.

Table 2 shows the location, number, size range, and total storage capacity of grain elevators designated as delivery points for KCBT HRW wheat futures contracts as of May 21, 2010.

**Table 2. Operators Regular for Delivery for KCBT Wheat Futures**(Revised as of May 21, 2010) (Source: [http://www.kcbt.com/wheat\\_operators.html](http://www.kcbt.com/wheat_operators.html))

Location	Number of Grain Elevators	Range in Grain Elevator Storage Capacity	Total Grain Elevator Storage Capacity
Kansas City, Missouri/Kansas	7	927,000 bu. – 10,083,000 bu.	34,176,000 bu.
Hutchinson, Kansas	6	1,869,000 bu. – 18,307,000 bu.	37,899,000 bu.
Salina/Abilene, Kansas	4	1,304,000 bu. – 30,289,000 bu.	44,813,000 bu.
Wichita, Kansas	3	5,824,000 bu. – 22,459,000 bu.	36,771,000 bu.
<b>Totals</b>	<b>20</b>	<b>927,000 bu. – 30,289,000 bu.</b>	<b>153,659,000 bu.</b>

Following from the delivery point elevator capacity figures in the previous table, Table 3 indicates the proportion to which deliverable stocks of wheat in these same KCBT HRW wheat delivery points take up available grain storage space as of June 18, 2010 and June 19, 2009. Note the marked increase in wheat stocks alone in deliverable positions at all four locations over the last 12 months.

**Table 3. Stocks of Wheat in Deliverable Positions & Operator Elevator Capacity**(Revised as of May 21, 2010) (Source: [http://www.kcbt.com/histdata/reports/stocks\\_20100618.pdf](http://www.kcbt.com/histdata/reports/stocks_20100618.pdf))

Location	Date	Deliverable Wheat Stocks (bushels)	Undeliverable Wheat Stocks (bushels)	Total Wheat Stocks (bushels)	Total Grain Storage Capacity (bushels)	% Total Wheat Stocks of Grain Storage Capacity
Kansas City	6/18/2010	10,961,000	145,000	11,110,000	34,176,000	32.5%
	6/19/2009	5,412,000	149,000	5,557,000	34,176,000	16.3%
Hutchinson	6/18/2010	16,823,000	0	16,823,000	37,899,000	44.4%
	6/19/2009	6,639,000	0	6,639,000	37,899,000	17.5%
Salina/Abilene	6/18/2010	16,508,000	773,000	17,281,000	44,813,000	38.6%
	6/19/2009	8,726,000	896,000	9,622,000	44,813,000	21.5
Wichita	6/18/2010	19,583,000	1,999,000	21,582,000	36,771,000	58.7%
	6/19/2009	6,957,000	2,434,000	9,391,000	36,771,000	25.5%
Total 4 Locations	6/18/2010	63,875,000	2,917,000	66,792,000	153,659,000	43.5%
	6/19/2009	27,734,000	3,479,000	31,213,000	153,659,000	20.3%

Choosing not to award warehouse receipts on the part of delivery point elevators is a legally acceptable practice as long as it is done in a consistently fair and unbiased manner among different parties seeking them. If large quantities of the 2010 Kansas wheat crop were delivered on short futures positions to KCBT delivery point elevators during delivery periods for the July 2010 and September 2010 KCBT wheat contracts, it is likely that these HRW wheat delivery point elevators could become overburdened or “clogged” with wheat supplies at the same time that export demand for U.S. wheat is slow, limiting the ability to move wheat out of these elevators into traditional marketing channels and free up space for succeeding crops. This assumes that the motivation of these major grain handling facilities is at least partly “through-put” and “turnover” of grain rather

than strictly storage to capture returns from possible storage hedge or other storage-related strategies.

### **Questions About the Impact of Fixed Storage Rates on Delivered Grain**

Another issue that to consider in examining the cash-futures convergence issue is the designation of fixed maximum storage rates as opposed to variable storage rates on delivered wheat to designated delivery facilities. In response to similarly wide or wider basis conditions for soft red winter (SRW) wheat during the 2005-2008 period, a variable storage rate mechanism was adopted for CBOT wheat futures contracts – with the purpose of removing incentives to hold and store delivered wheat rather than to load it out or sell it into the cash market when futures carrying charges were larger than the fixed storage rate on delivered grain.

Whether this change would be helpful in bringing about convergence of HRW wheat cash and futures prices is a question to be carefully examined. Both the direct intended effects on cash sales of delivered wheat would need to be considered as well as potential unanticipated, secondary effects upon the market for storing wheat in Kansas grain elevators. Current fixed maximum storage rates that can be paid on wheat delivered on KCBT wheat contracts is \$0.00148 per bushel per day, or \$0.0444 per bushel per month for 30 days. Under variable storage rate rules adopted for the CBOT wheat contract pertaining to SRW wheat, storage rates increase by a set amount per bushel when monthly futures contract carrying charges were calculated to have reached 80% of cost of wheat storage. See the following information describing the CBOT variable storage charge mechanism: <http://www.cmegroup.com/trading/commodities/files/VSR-White-Paper-FINAL.pdf>.

### **Impact of Wider Basis on Wheat Price Risk Management and Revenue Coverage Tools**

Although there are numerous questions raised about the causes of wider Kansas wheat basis levels, there is little dispute that the widening of wheat basis levels and the increased uncertainty associated with developing credible wheat basis expectations are likely to negatively affect the profitability and availability of forward contracts for wheat sales at local grain elevators, as well as the demand for use of KCBT wheat futures and options as risk management tools by farmers and agribusiness. Forward contracts given to wheat producers by local Kansas grain elevators implicitly involve a local cash basis bid. Wider and more volatile basis bids for future cash delivery will likely be reflected in lower forward contract bids relative to KCBT wheat futures, as well as lower price floors for minimum price contracts and wider basis contracts.

Expectations of wider wheat basis bids may also limit the use of short futures hedges, put and call options for price risk management strategies, and other futures-based marketing tools by Kansas wheat producers. Non-convergence in HRW wheat markets also seriously impacts effective revenue guarantees in revenue based crop insurance policies, whose price determination mechanisms are tied to wheat futures prices. If wider basis levels persist over time for Kansas HRW wheat cash prices relative to competitive cropping alternatives, it is likely that the competitive profitability of wheat enterprises will be diminished, and that HRW wheat acreage would continue to decline in Kansas and elsewhere.

### **Conclusion**

Weak demand for moderate to low protein hard red winter wheat, growing supplies of Kansas grains relative to grain elevator storage capacity, and harvest-related seasonal price declines have

negatively affected Kansas wheat prices, and have also likely had a negative impact on Kansas HRW wheat basis bids in recent weeks. At the same time, public records show that delivery point elevators for KCBT HRW wheat futures have markedly tighter storage space as of mid-to-late June than they did a year ago. The anticipation of the need to handle sizable 2010 Kansas wheat and fall crop harvests through these facilities may be affecting the willingness of these delivery point elevators to provide warehouse receipts required for delivery on short positions in KCBT wheat futures contracts.

The purpose of delivery mechanisms on commodity futures contracts is to bring about convergence between futures prices and prices in their underlying cash markets. The lack of available warehouse receipts for wheat producers and other short sellers (which are needed to execute wheat deliveries against KCBT wheat contracts) may be at least one factor inhibiting the convergence of Kansas cash wheat and KCBT futures prices.

The impact of any possible changes in the delivery system designed to increase the availability of wheat futures delivery opportunities needs to be carefully analyzed and scrutinized. If increased access to short futures delivery processes were available, it would likely have the positive effect of helping to bring about improved convergence of HRW wheat cash and futures prices. However, that action may not markedly change current cash price bids for Kansas wheat farmers – if it is assumed that the cash market is reflecting true supply-demand conditions in the HRW wheat market. Cash settlement of futures price indices would also merit scrutiny in the search for the best possible performance in grain futures contracts.

If a prolonged period of wide HRW wheat basis levels occurred in the southern and central plains as had happened with soft red winter wheat in the eastern Corn Belt during the 2005-2008 period, it would likely have a major impact on the relative profitability of HRW wheat enterprises in Kansas and the Great Plains region, and could cause shifts in acreage away from wheat toward feedgrain and oilseed crop enterprises in these areas. The impact of a prolonged period of wide basis levels would first be directly felt in the availability of less effective marketing and financial risk management tools available to wheat producers. The use of forward cash contracts, futures and options based price risk management tools, and revenue management insurance tools would each be negatively affected should cash basis bids remain at wide levels for a prolonged period of time.

## Appendix A.

### KCBT Wheat Futures – Open Outcry

Source: [http://www.kcbt.com/contract\\_wheat.html](http://www.kcbt.com/contract_wheat.html)

COMMODITY: Hard Red Winter Wheat Futures

Contract Unit: 5,000 bushels.

Delivery Months: July, September, December, March, May.

Delivery Mechanism: Physical; registered warehouse receipt issued by regular elevators.

Deliverable Grades: No. 2 at contract price with a maximum of 10 IDK per 100 grams; No. 1 at a 1 1/2-cent premium.

Delivery Points: Kansas City, Missouri-Kansas; Hutchinson, Kansas at a 9 cent discount, Salina/Abilene, Kansas at a 12 cent discount; Wichita, Kansas at a 6 cent discount.

Delivery Standards: When warehouse receipts are surrendered to the issuer for load-out, the taker of delivery shall have the option to, at the taker's expense, request in the written load-out instructions that the wheat contain no more than 4 ppm of deoxynivalenol (vomitoxin). A determination of the level of vomitoxin shall be made at the point of origin by the Federal Grain Inspection Service or such other third party inspection service mutually agreeable to the maker and taker of delivery. A determination of the level of vomitoxin shall be based on the average test results of the wheat loaded in a single day from a single warehouse for each taker of delivery.

Load-out/Storage Rates: The maximum load-out fee for regular elevators on grain delivered on futures contracts is established at 8 cents per bushel. The maximum insurance and storage charge for regular elevators on grain delivered on futures contracts is established at \$.00148 per bushel per day.

Delivery Notices: Must be issued and delivered to the KCBT Clearing Corp. before 4:00 p.m. on the second business day preceding the day of delivery, except on the last notice day of the delivery month, when delivery notices may be delivered to the Clearing Corp. until 2:00 p.m. on the last notice day (business day preceding the last delivery day).

Last Trading Day: There is no trading after the business day preceding the fifteenth (15th) calendar day of the liquidating month.

First Notice Day: The business day preceding the first business day of the liquidating month.

First Delivery Day: The first business day of the liquidating month.

Last Notice Day: The business day preceding the last business day of the liquidating month.