JULY 2023

Better Market Insight for Both Sides of the Transaction

Cattle Contracts Library Pilot Evaluation

Prepared at the request of
National Cattlemen's Beef Association
Live Cattle Marketing Committee
Cattle Contracts Library Working Group

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We would like to start by complimenting the USDA's Agricultural Marketing Service (AMS) on the job of developing and implementing the Cattle Contracts Library (CCL) Pilot Program. We believe AMS did an incredible job of incorporating what was requested by industry stakeholders at the CCL Listening Session in Kansas City in April 2022.

The CCL became law under the Consolidated Appropriations Act of 2022, in which AMS was directed to create a CCL Pilot Program. There were four directives in the legislation:

1. Increase market transparency.
2. Improve price discovery.
3. Provide cattle producers better insight regarding supply and demand in the cattle market.
4. Allocate $1 million to AMS to develop and implement the pilot program.

MAR 2022

Consolidated Appropriations Act of 2022 becomes law

APR 2022

USDA AMS hosts first Listening Session on Cattle Contracts Library Pilot Program

JAN 2023

Pilot CCL launches and first weekly CCL Report is released

SEP 2023

Last month of funding for CCL Pilot Program

The first AMS-hosted Listening Session on the CCL Pilot Program was held in April 2022, and the first weekly CCL Report was issued on January 28, 2023. That is an incredibly quick turnaround time. The pilot is funded through September 2023.

It must be acknowledged that the short period of time from implementation to September is too narrow of a window in respect to market seasonality as well as to consider how the CCL responds during the cattle cycle to make a thorough evaluation. It must also be noted that since implementation, the market for all classes of cattle has been in an extraordinary rally that, while wonderful and overdue, prevents an evaluation under a comprehensive set of market circumstances and conditions.

Unless otherwise noted, the sources for all charts in this report are Cattle Contracts Library and Terrain.

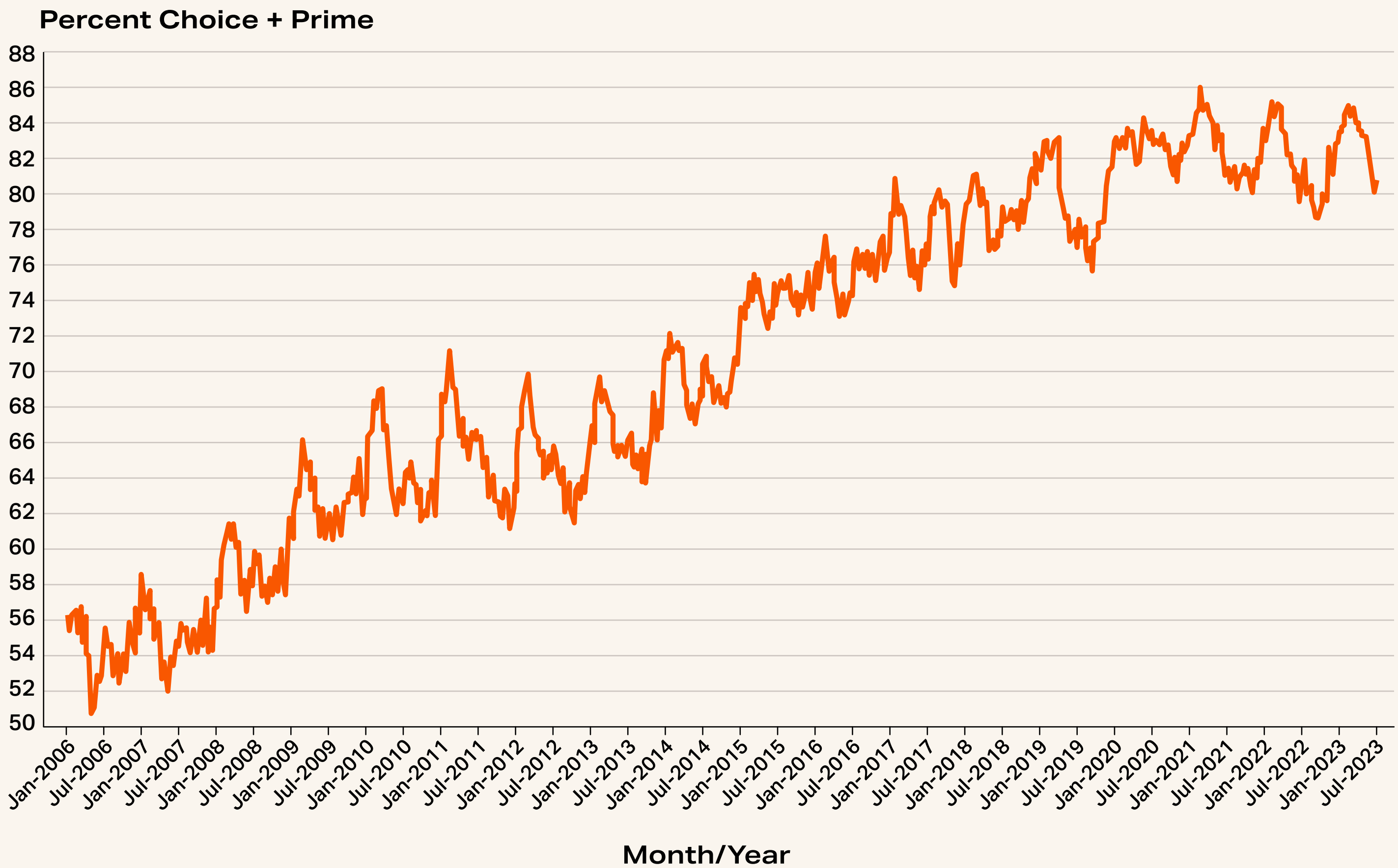
INDUSTRY BACKGROUND: PREMIUMS/ DISCOUNTS AND MARKET TRANSPARENCY

Beef quality as measured by the percentage of Choice and Prime grading carcasses has improved by more than 35% over the past 17 years (see Chart 1). While there are multiple drivers of improved cattle quality, it is easily argued that nothing has had a larger influence than cattle feeders responding to the opportunity to capture premiums that more accurately reflect the value of individual animals, as opposed to selling pens of cattle on the average. The premiums and discounts associated with contract marketing have incentivized the industry to make cattle better. More importantly, it has been the centerpiece of recovery in beef demand. Although grading percentages have leveled off in recent years, driven by influences from cattle stress due to drought and the economics of high feed grain prices, we expect to see continued improvement in overall cattle quality in time.

> The premiums and discounts associated with contract marketing have incentivized the industry to make cattle better.

There have been issues of perceived market transparency and fairness between cattle producers and packers as long as there has been a cattle market. Those market tensions typically ebb and flow depending upon the market cycle and who held

Chart 1: **USDA Choice + Prime Grading Rate**



Sources: USDA, Terrain

the power of market leverage. The current issue of market transparency and equal market access started on August 9, 2019, when a fire disabled Tyson's plant in Holcomb, Kansas, for the remainder of the year. The shutdown at the plant forced Tyson and other packers to accept cattle that had been destined to the Finney County plant, drawing down the cattle feeders' leverage. In the overall scheme of things, the Tyson fire did not really have a lasting detrimental impact on prices as much as it caused a disruption in timely cattle harvesting, which led to issues for producers in securing rail slots on a timely basis.

BEEF PLANT CLOSURES DUE TO COVID-19

The backlog of cattle from the Tyson fire was only magnified during the first half of 2020 as the spread of COVID-19 led to slowdowns and temporary closures of beef plants. Compounding the situation was the forced closure of restaurants and public activities that in turn forced packers and food service companies to transition from essentially a 50-50 split of beef distribution between Hotel, Restaurant and Institutional (HRI) businesses and retail, to being heavily weighted to retail distribution. This required changes in carcass fabrication as well as packaging. This was a monumental task that transpired in only a few weeks. While there were a few weeks with limited beef offerings to consumers in some locations, packers and retailers collaborated to keep protein on the shelves, all the while working with severe labor shortages that have not yet fully recovered.

The fallout from the beef plants' slowdowns and temporary closures to the cattle industry was that at the peak there were 1 million head of fed cattle backed up. Cattle feeders' inability to sell fed cattle on a timely basis in turn backed up a similar quantity of cattle outside feed yards. The leverage transfer that occurred with that much backlog provided mind-numbing power to the packer and forced heavy, ongoing losses for cattle feeders (see Chart 2).

As a result, during 2020 through 2022 there were complaints of unfair access to markets and an unfair price advantage by large contract producers over independent feeders. There were also complaints about fairness of marketing practices among feeding regions. Throughout this period, there was a succession of working groups created through the NCBA Live Cattle Marketing Committee. On multiple occasions, producers, academics and industry analysts were asked to testify before the U.S. House of Representatives and Senate. During this time, there were a multitude of proposals and proposed legislation to address market issues. It was the outcome of those groups that ultimately resulted in the request for the USDA to create a pilot of the CCL.

CONFIDENTIALITY IN THE CCL

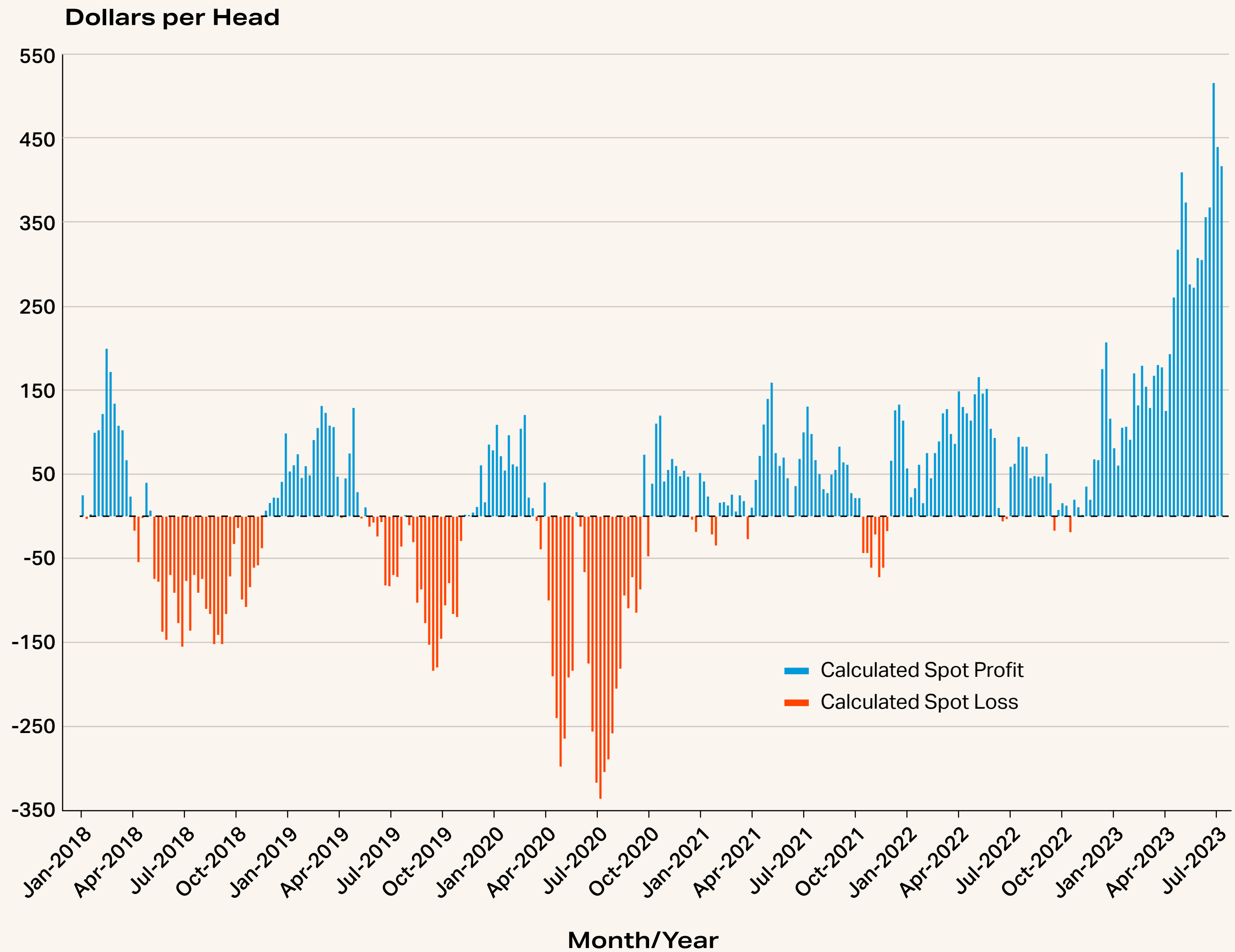
Protecting confidentiality is the No. 1 issue or concern by all CCL participants and AMS. Some industry members have requested that they would like to have additional information on the contracts. However, in every conversation we have had where market participants are asked if they are willing to share additional information regarding their marketing or business, the answer is always no.

The CCL is exactly as stated — it is a library of contracts. It does not incorporate the contracts themselves; it aggregates the segments of contract specifications. There has been confusion in the industry regarding the number of cattle represented in the contracts and the weighted distribution of premiums and discounts. The CCL is a composite of contract components; it does not incorporate the number of cattle at a specific premium or discount. The decision was made by AMS developers to report only the number of contracts, largely to protect the confidentiality of individual feeders and packers. The decision was also made because incorporating the number of contract premiums and discounts with a head count would have required combining additional data sets, which would have placed time constraints on the ability to issue the reports on Monday afternoons.

DATA REVIEW

As part of our evaluation, we have taken the aggregated data provided by AMS and made available within the CCL to view it as time series data to show changes by

Chart 2: **Calculated Fed Cattle Spot Profit and Loss**



Sources: USDA, CME, Terrain calculations

contract element over time. This visualization approach allowed us to see which elements are changing and which are stable.

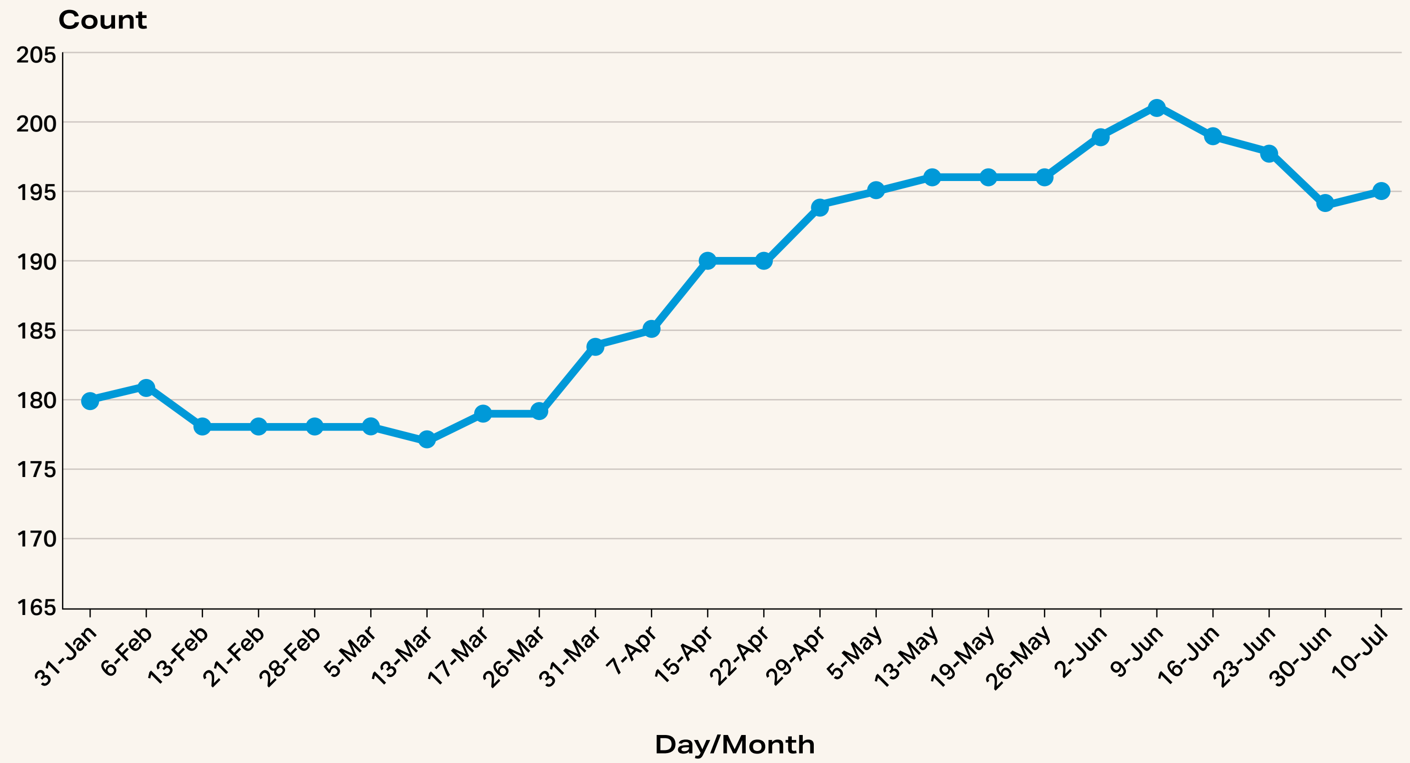
In addition to looking at the CCL data as time series data, we have compared the contract-based premium and discount data with other currently available AMS weekly data. Though this approach compares mostly dissimilar data sets, we felt it was important to do so, as most conversations about contract premium and discount structure lead to a discussion that begins to compare these data series. We want to call out these dissimilarities and caution users to not draw too many conclusions about the comparisons.

i. Active Contracts and Base Price Source

The number of active contracts reported by the CCL grew from a low of 177 during the seventh week of the program to 201 during the week ending June 9, 2023. This gain of 24 contracts represents a 13.6% increase in active contracts. From the peak through the week ending June 30, 2023, the number of active contracts declined by 7 (see Chart 3).

The source of the base price options used as a percentage of active contracts is very constant over the course of the pilot program. USDA reports combined (5-Area, Kansas, Nebraska, Texas/Oklahoma or Iowa/Minnesota) account for 75% to 77.5% of the base price options used in contracts while CME futures, negotiated base prices and top of market base price

Chart 3: **Active Cattle Contracts**



options round out the balance of active contracts, with each accounting for 10% or less of contract options (see Chart 4). On a percentage of actual volume or head count basis, USDA reports maintain their leadership role, accounting for 76% to 78% of the monthly head count volumes captured from plants included in the pilot program (see Chart 5). The top of market option used for base prices accounts for the smallest percentage of cattle reported and is the least frequently used option in the percentage of active contracts reported data. Of particular note, the base price option data as a percentage of actual volume and the actual versus estimated contracted cattle numbers are the only details in the pilot program that are reported on a head count basis. All other data is reported as either a percentage of contracts or an average of contracts (that is, premiums and discounts).

Chart 4: **Base Price Option Percentage of Active Contracts**

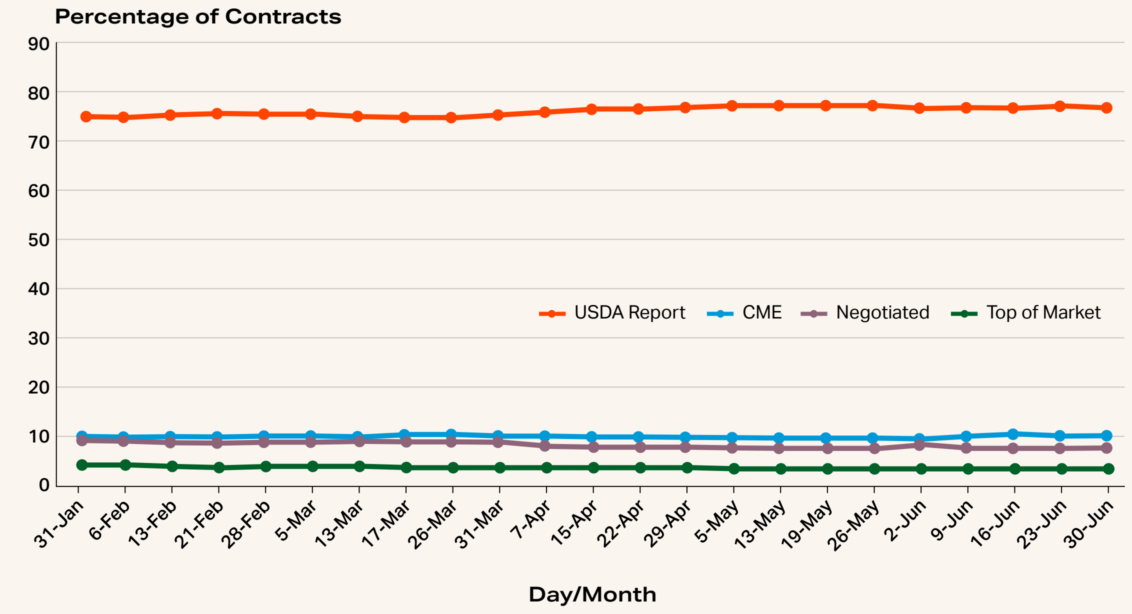
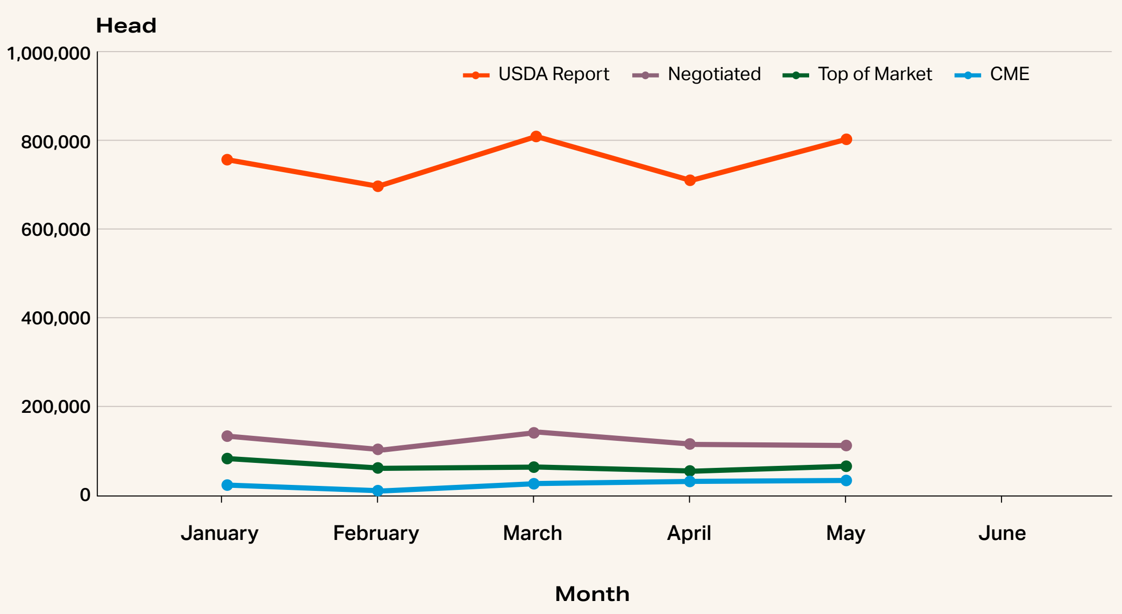


Chart 5: **Actual Volume Base Price Source**



Less than 30% of contracts reported have adjustments applied to the base price (presumably before premiums and discounts derived from contract specs are applied) (see Chart 6). Between 90% and 95% of contracts apply premiums and discounts to the base prices (see Chart 7).

Chart 6: **Base Price Adjustment Applied**

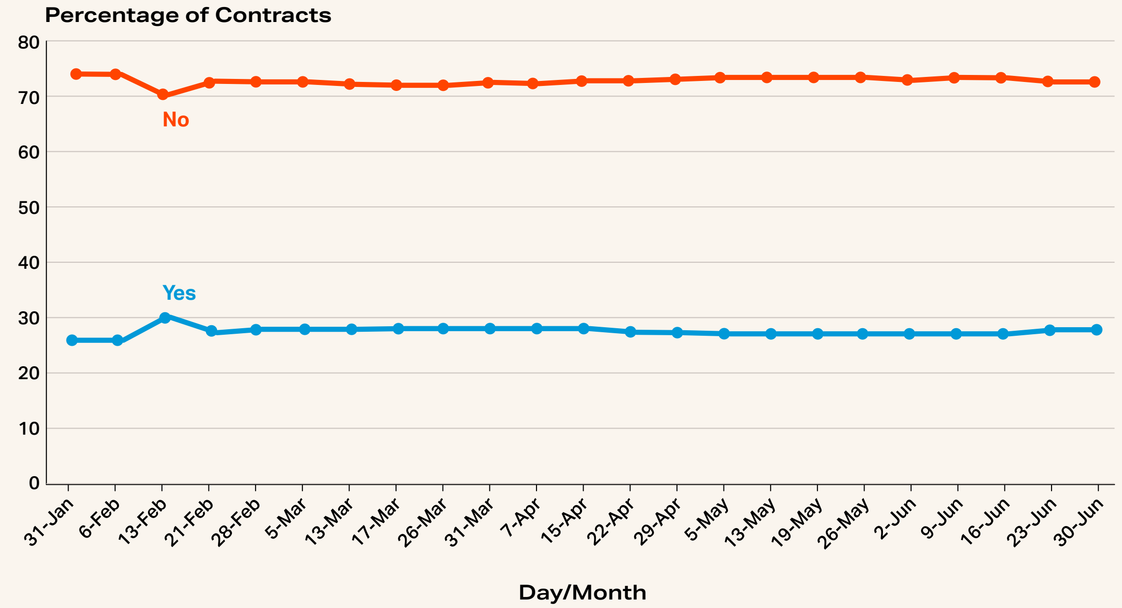
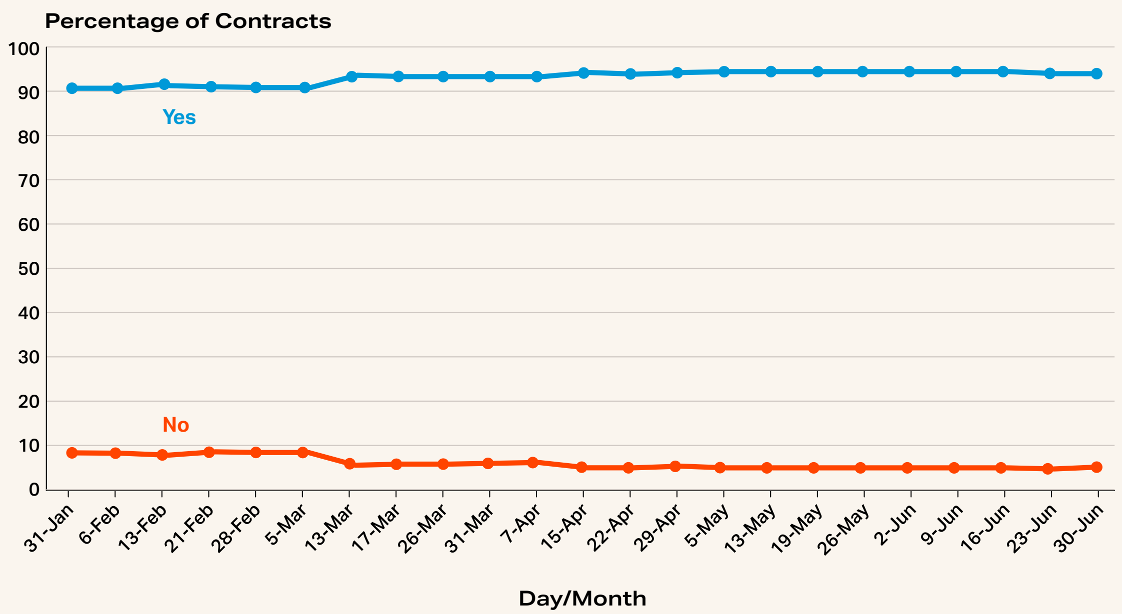


Chart 7: **Base Price Premium/Discount Applied**



Live FOB prices converted to dressed prices account for 45% to 48% of contract base prices while dressed delivered base prices account for 30% to 35% of contract base prices and are the next largest percentage (see Chart 8). The remaining methods each account for 5% to 10% of contract methods.

Average yield or dressing percentage conversions used in the live converted base prices reflect the differences in value tied to FOB versus delivered live cattle, and the contracts use a 0.7% to 0.8% yield variance to adjust for the freight (see Chart 9).

Chart 8: **Base Price Selling Basis Percentage**

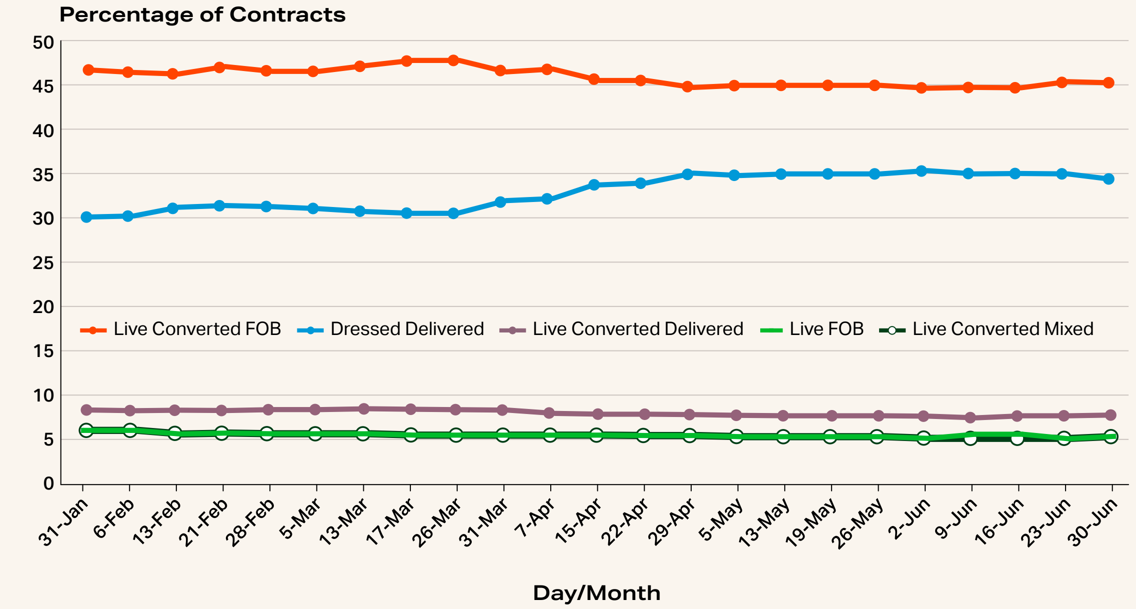
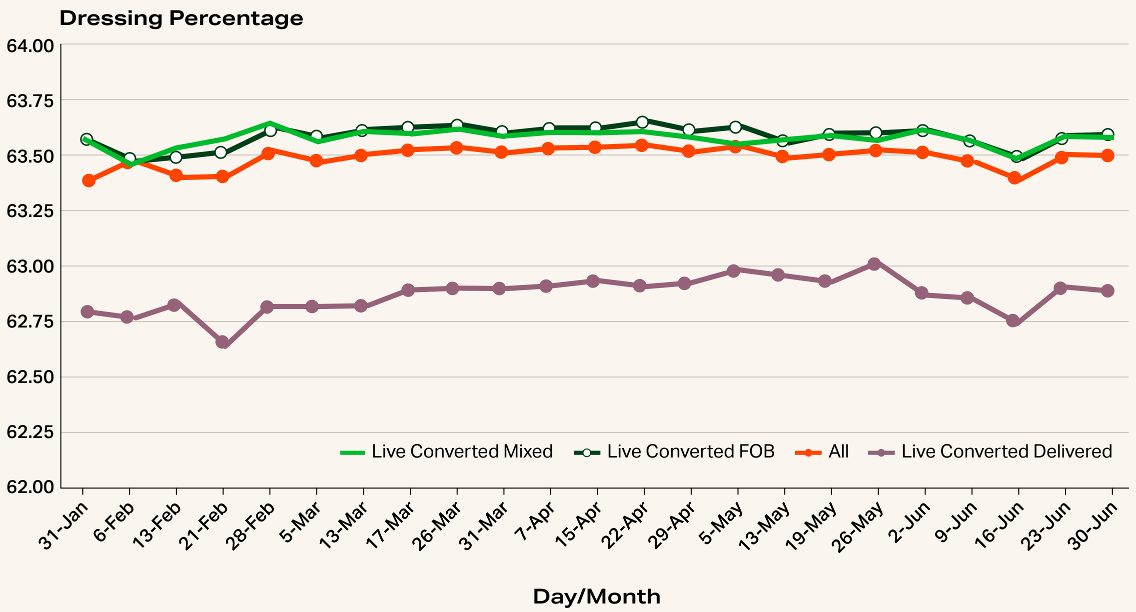
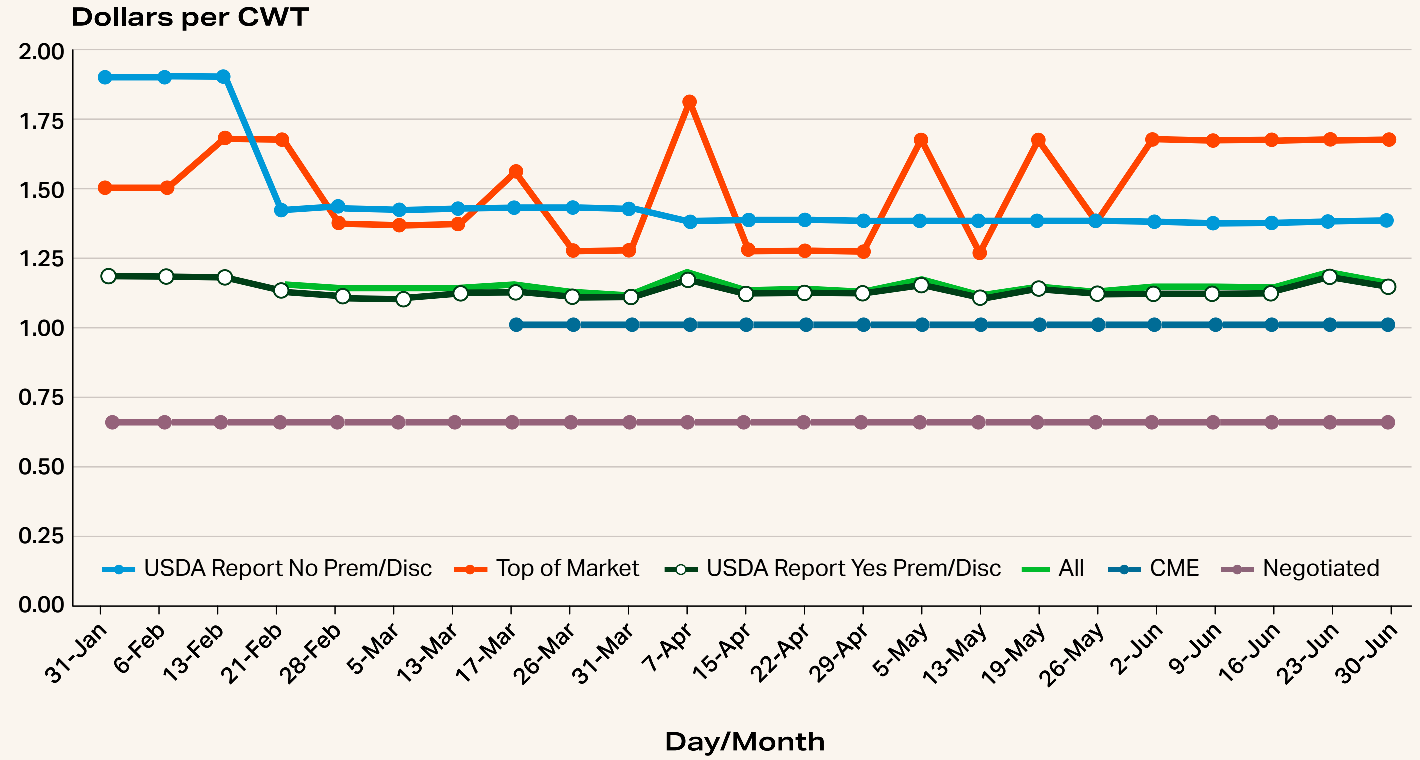


Chart 9: **Base Price Selling Basis Yield Conversion**



Average base price adjustments are largest for contracts that use top of market and USDA reports with no premiums or discounts applied, while contracts that use CME futures or are negotiated have the smallest base price adjustments (see Chart 10). Average base price adjustments generally range from $5/head to $15/head.

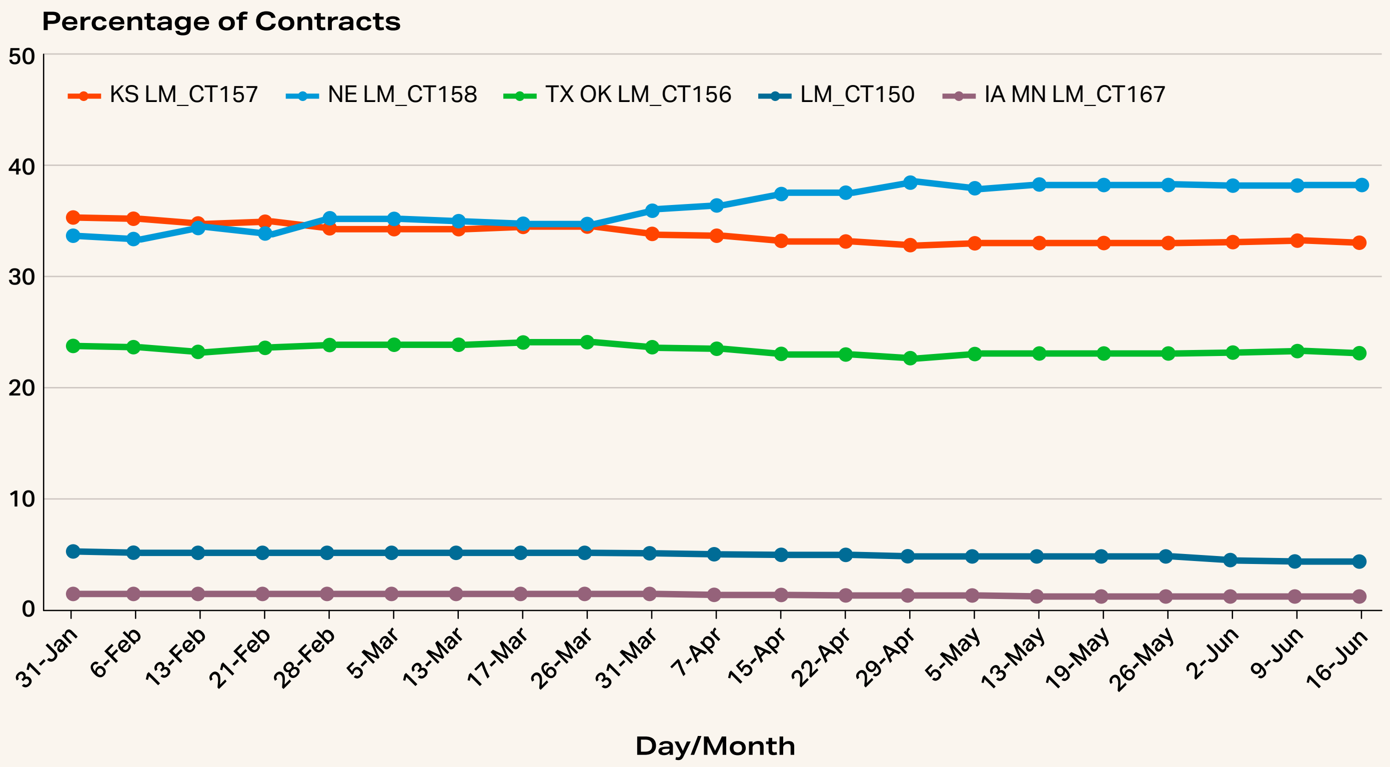
Chart 10: **Average Base Price Adjustment**



USDA reports are the largest source of base prices for contracts and account for 75% to 78% of base price options used. The top of market base price option appears in about 4% of contracts.

The breakout of USDA reports used shows that prior to March 26, 2023, about 35% of contracts that use a USDA report for the base price used either the Kansas or Nebraska weekly weighted average reports. After March 26, 2023, that trend shifted slightly, with the Nebraska report being used more frequently as the base at the expense of the Kansas, Texas/Oklahoma and 5-Area reports. The Iowa/Minnesota weekly weighted average report is the least used of the five (see Chart 11).

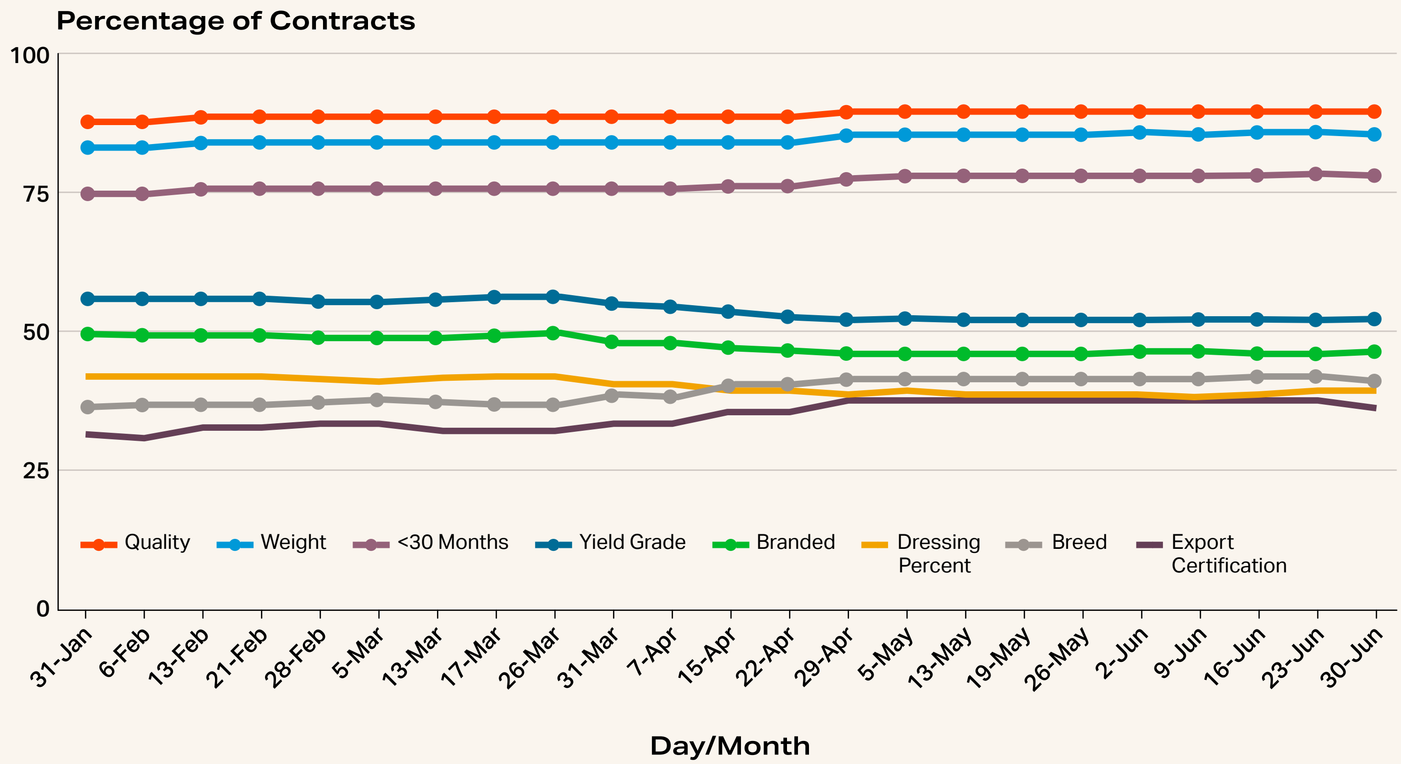
Chart 11: **USDA Report as Base Price Source**



ii. Premiums and Discounts

Contract specifications and their respective premiums and/or discounts create the bulk of the variety among contracts and reflect the various attributes that the supply chain would like more or fewer cattle to meet, depending on the attribute, packer/processor and consumer desires. Specifications for quality, weight, <30 months of age, and other miscellaneous and yield grade specs appear in more than half of the active contracts (see Chart 12). Specifications for branded programs, breeds, dressing percentages and export certification occur in one-third to half of the active contracts. Specifications for starter cattle, volume thresholds and supply relationships occur in less than 10% of the active contracts. Contract specifications that occur in less than 50% of the active contracts are not all broken out into the premium and discount table and are either included in the "other" subcategories where appropriate or not included in the table. This is likely due to the need to meet confidentiality standards.

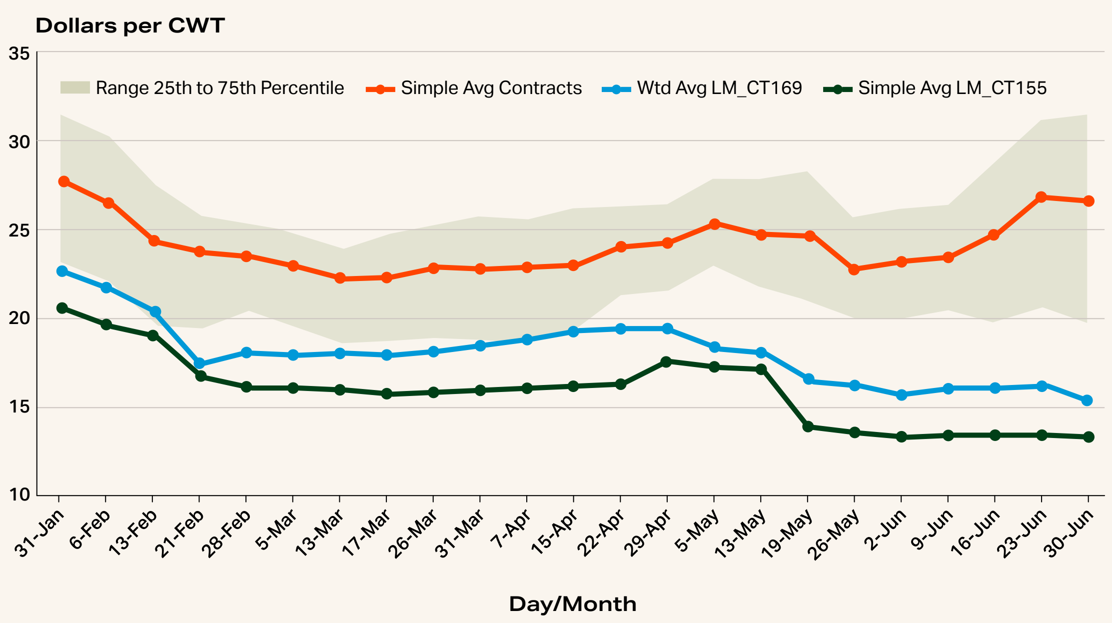
Chart 12: **Spec Type Appearing in Percentage of Contracts**



Where there is overlap, we have compared the premiums and discounts appearing in contracts reported in the CCL with the data available from AMS and released through Mandatory Price Reporting (MPR) reports LM_CT155 and LM_CT169. LM_CT155 is the Weekly National Carcass Price Premiums and Discounts report, which is a national simple average. The LM_CT169 report is the Weekly 5-Market Carcass Price Premiums and Discounts report, which is on a weighted average basis that uses average relative plant capacity as the weighting metric. The packers are requested to turn in their most basic grid containing premiums and discounts for cattle slaughter for the week. The premiums and discounts section of the CCL Report represents the simple average of what appears in contracts.

One of the shortcomings and challenges of this analysis is the relatively short period we are evaluating. This makes observations of seasonal tendencies and the changing premiums and discounts used to signal the market difficult at best and mostly anecdotal. Additionally, comparing these three dissimilar data sets (the CCL, LM_CT155 and LM_CT169) and drawing hard conclusions is fraught with risk, as not all the differences can be accounted for in any meaningful way. For example, not all the packer/plant combinations in the contract library would be accounted for in the 5-Area report versus the national report, and then there are three different tabulation methodologies (a simple average of contracts, a simple average by head and a weighted average by head). Additionally, not all specifications and their respective premiums and/or discounts appear in all three reports. Highlighted examples are shown in Charts 13-22.

Chart 13: **USDA Beef Quality Grade Prime Premium**



Sources: Cattle Contracts Library, LM_CT155, LM_CT169, Terrain

Chart 14: **USDA Beef Quality Grade CAB Premium**

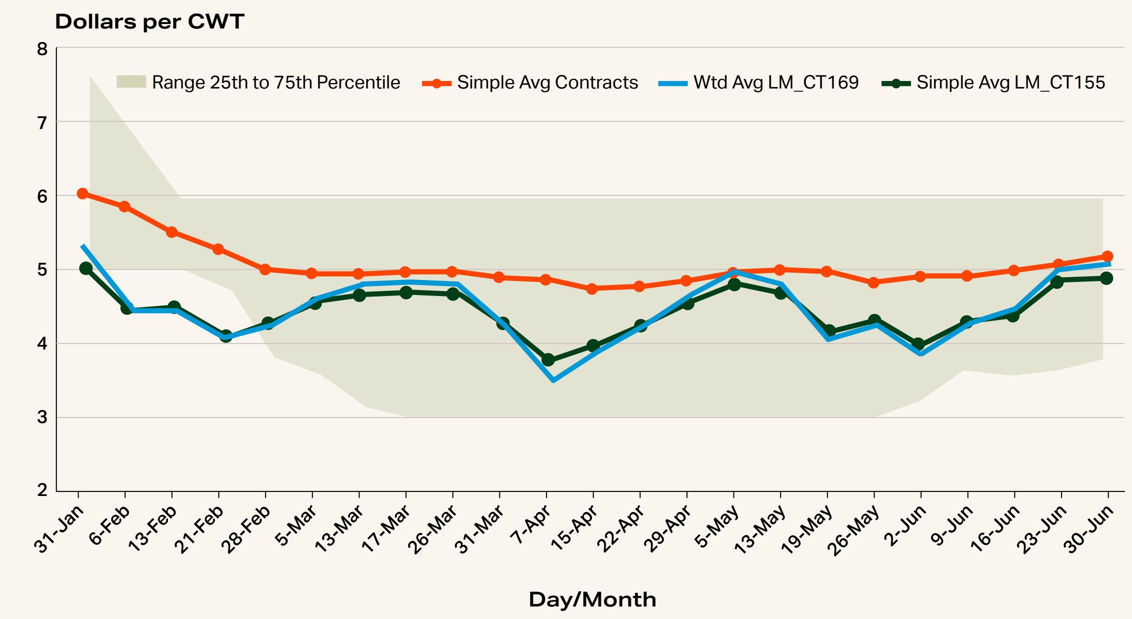
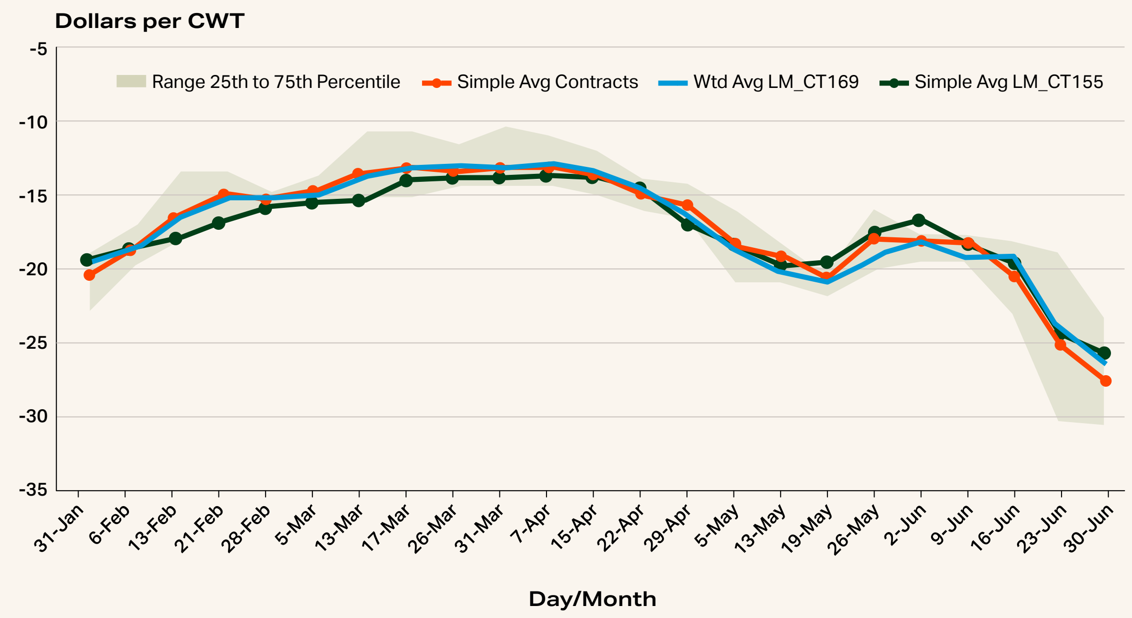


Chart 15: **USDA Beef Quality Grade Select Discount**



Sources: Cattle Contracts Library, LM_CT155, LM_CT169, Terrain

Chart 16: **USDA Beef Quality Dairy Type Discount**

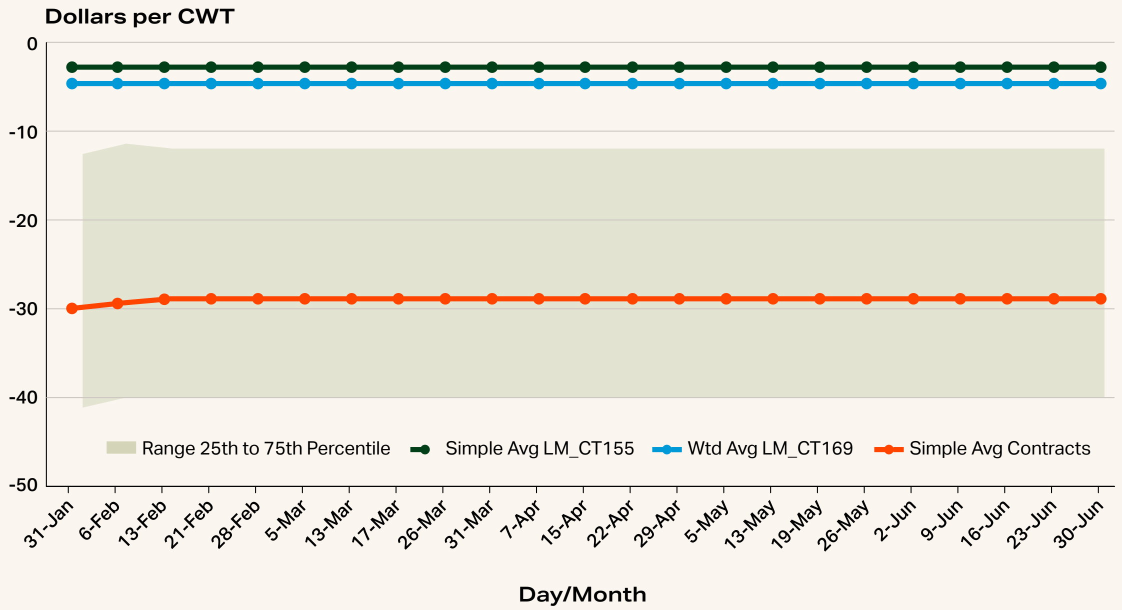
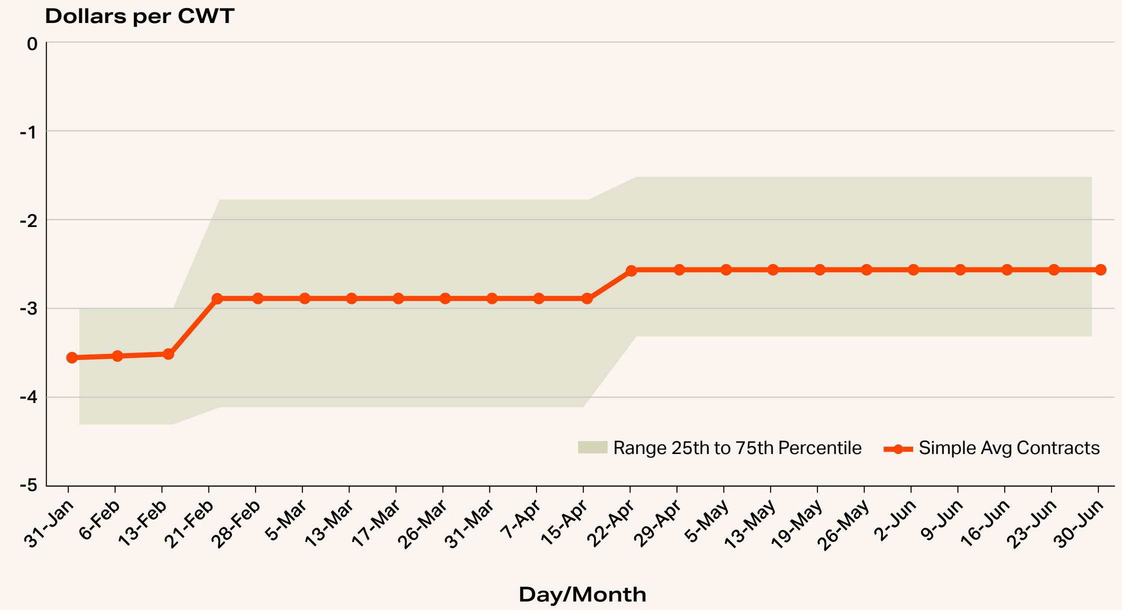


Chart 17: **USDA Beef Quality Beef/Dairy Cross Discount**



The CCL is the first report to capture the USDA Beef Quality Beef/Dairy Cross Discount

Sources: Cattle Contracts Library, LM_CT155, LM_CT169, Terrain

Chart 18: **USDA Beef All Natural Premium**

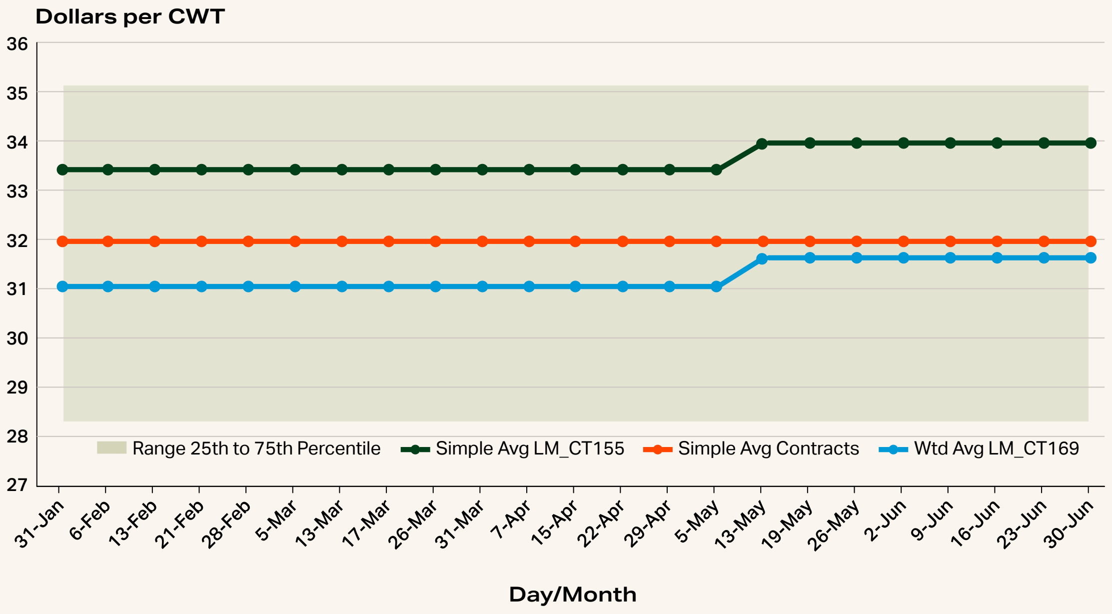
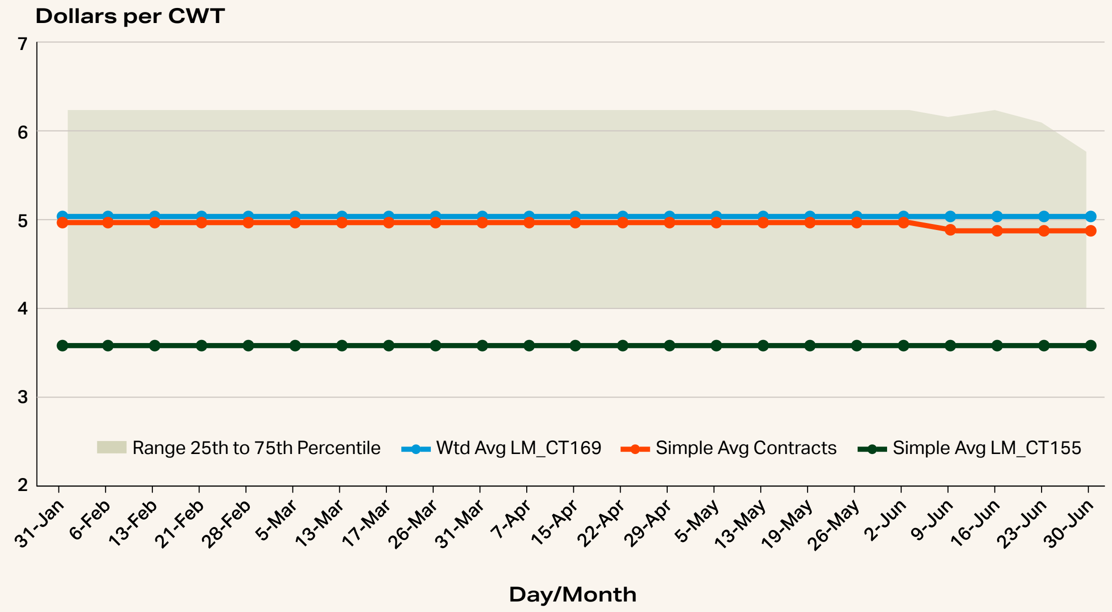


Chart 19: **USDA Beef Yield Grade 1 Premium**



Sources: Cattle Contracts Library, LM_CT155, LM_CT169, Terrain

Chart 20: **USDA Beef Yield Grade 2 Premium**

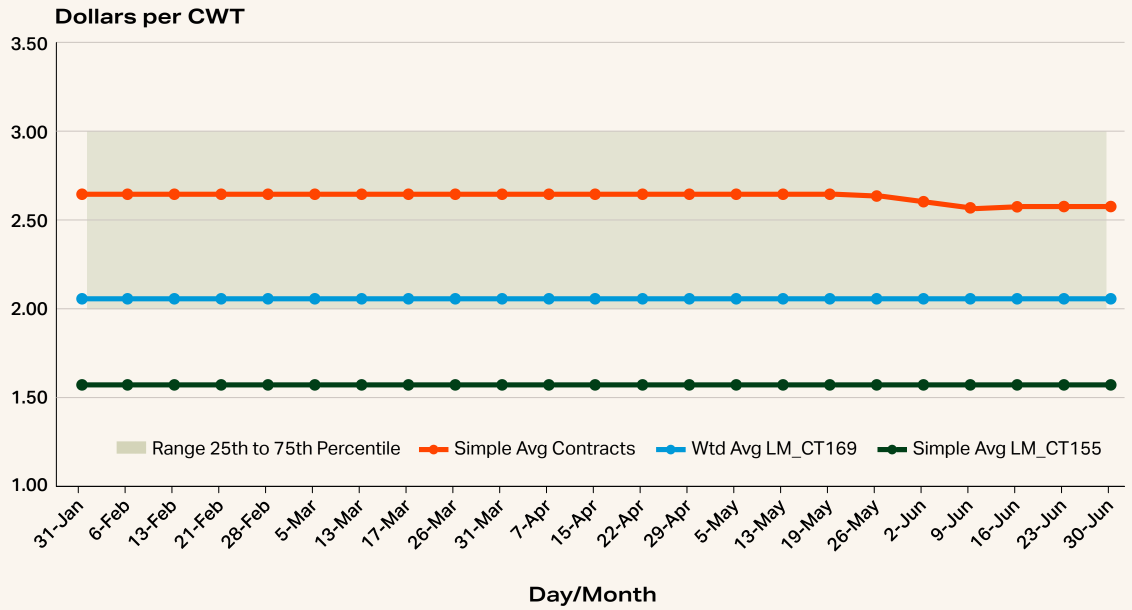
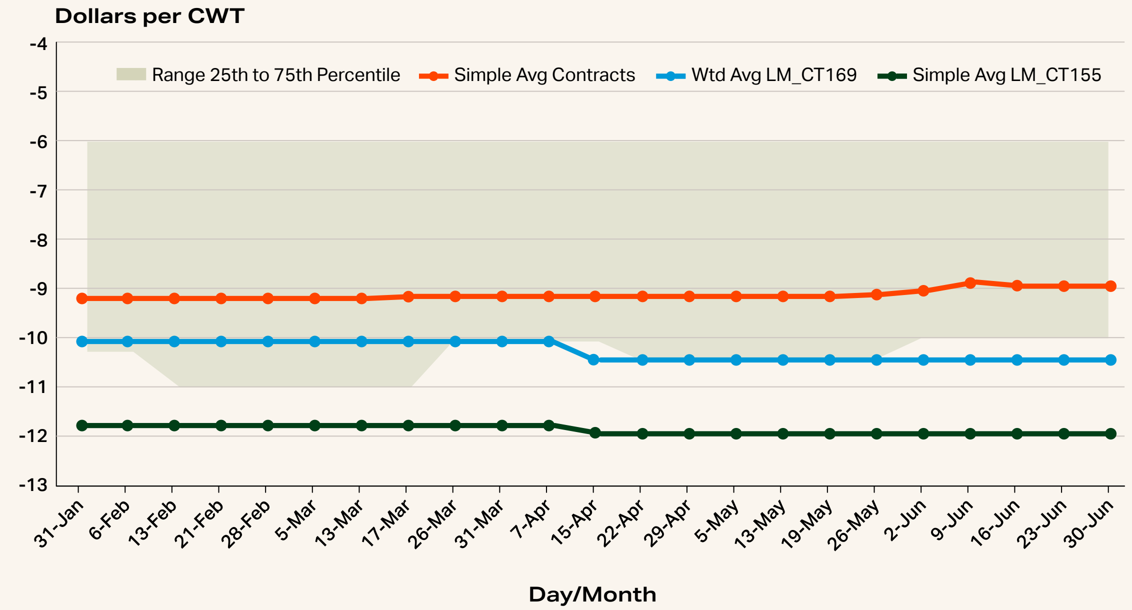
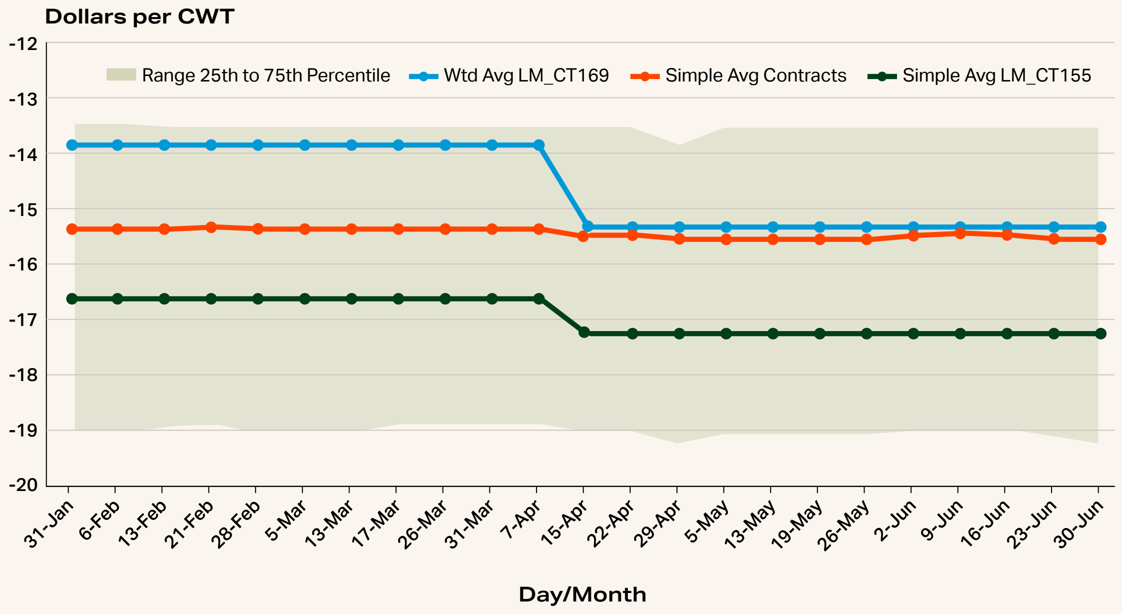


Chart 21: **USDA Beef Yield Grade 4 Discount**



Sources: Cattle Contracts Library, LM_CT155, LM_CT169, Terrain

Chart 22: **USDA Beef Yield Grade 5 Discount**



Sources: Cattle Contracts Library, LM_CT155, LM_CT169, Terrain

Heavy weight 1 and 2 and light weight 1 and 2 discounts appear to be widely varying and difficult to align with the other premium and discount reports. AMS asks for the data for the two groupings and the respective discounts for these ranges. It appears the system faces challenges in establishing the weight ranges and discounts. The weight ranges appear to have a large variability and overlap among packers with varying discounts. This wide variability makes sense in the industry, as plants are not equally constrained by carcass weights. Depending on initial plant design and plant upgrades over time, plant rail capacity is believed to vary essentially by plant. Packing companies may address this on a plant-by-plant basis or may choose to address it by a lowest common denominator approach. Minimum and maximum weight specs provide two incentives to the cattle feeding system. The first is to narrow the range of carcasses coming into plants to create a more consistent end product, and the second is to protect plant equipment and staff by limiting the number of extremely heavy carcasses entering the plant.

Over time, this transparency could lead to a larger variety of contracts...

In all, the CCL Pilot Program reports offer market participants a view into the many avenues that packers and cattle feeders have created to attribute value to cattle through contract mechanisms. This has been done while protecting confidentiality for participants on both sides of the transaction. Over time, this transparency could lead to a larger variety of contracts as new cattle specifications and combinations of premiums and discounts and base price adjustments are used to signal market participants. This should allow the beef supply chain to deliver a higher percentage of cattle with certain attributes that consumers and the various sectors desire.

REQUESTS FOR CHANGES BY MARKET PARTICIPANTS

In addition to our own evaluation of the CCL pilot, we gathered feedback and input shared from attendees during the AMS-hosted Listening Sessions in Texas and Nebraska, as well as from individual producers and other industry stakeholders during interviews that we conducted.

i. Regional Packers

The CCL pilot has required contract information from the Big Four packers only. It is recommended that all plants with an annual slaughter capacity in excess of 125,000 head be included. While the current reporting firms or plants make up over 80% of fed cattle slaughter, it is our opinion that if the regional packers were included in the reporting process, especially those that specialize in ultra-high-quality cattle, it would likely increase the premiums for quality. It would also improve the statistical reliability of the data, since regional packers account for approximately 20% of fed cattle slaughter. This could likely be achieved without the need to change the reporting framework and would add little cost to the program.

ii. Verbal Contracts

The request has been made to include verbal contracts. Often these are cattle that were offered for cash sale, did not sell and are placed on a grid for the following week's slaughter. While desirable, this aspect is going to be exceptionally difficult to capture. Also, it is doubtful the addition of verbal contracts would change the outcome of total numbers or the premiums or discounts to a meaningful degree because they do not represent a large enough share of the total contracts.

iii. Access to Information

Some have questioned if the creation of the CCL gives packers an unfair advantage. While the concern is legitimate, the information is published each Monday, and both buyers and sellers have access to the full report at the same time. Given the open channels of information within the industry, it is doubtful that there is much information published in the CCL that packers do not already have, since information is also derived from buyers talking with clients and determining what is going to be required to make a trade.

In general, the CCL supports the program's objectives of increasing market transparency, improving price discovery and providing producers better insight into the supply/demand aspects of the market.

It is certainly possible that packers have economy of scale and the ability to analyze the data in more detail than most producers. It is our opinion the CCL does provide information that was largely already available under Livestock Mandatory Reporting (LMR), but it organizes the data into a more usable format. Because virtually all the information contained in the CCL was already available, we view the CCL as supportive to producers. In general, the CCL supports the program's objectives of increasing market transparency, improving price discovery and providing producers better insight into the supply/demand aspects of the market.

Concerns have been raised that the additional information makes negotiating specific premiums and discounts more difficult. For confidentiality purposes, AMS uses a range of the 23rd to 28th percentiles to calculate the 25th percentile for the low end of the range and the 73rd to 78th percentiles to calculate the 75th percentile for the high end of the range. The added calculations were done to again ensure confidentiality.

By reporting at the mean and 25th and 75th percentiles, the report is intentionally cutting off the tails of the distribution curve. It likely also increases the slope of the bell curve by characteristic. Could

If the market becomes more transparent, it is going to assist in tightening margins.

this give the perception that negotiating extremes becomes more difficult? Yes, but keep in mind the full range of contract premiums and discounts are still in the equation; they just are not as visible. The function of a commodity market is to drive margins toward zero over time. If the market becomes more transparent, it is going to assist in tightening margins.

iv. Weighted Averages

The request has been made to calculate the premiums and discounts on a weighted average basis. This request is due to confusion about the CCL structure. The CCL is an evaluation of contracts. It does not incorporate cattle head count traded at a specific price. As a result, there is no opportunity to calculate premiums and discounts on a weighted average basis.

The request to calculate premiums and discounts on a weighted average basis is driven by the idea that if a large contractor had a contract with better negotiated premiums, it would skew the average price reported by characteristic. It could also make identifying a specific feeder or packer more likely.

This point to include or not include weighted averages is certainly worth discussion. Our perspective is to leave the calculations with a simple average. If the mechanisms were added to do a weighted average, it would make the calculations more cumbersome and complex and potentially risk the degree of confidentiality that is built into the program.

v. Comparisons to the Swine Contract Library

The request has been made to make the CCL and Swine Contract Library (SCL) more comparable. That is going to be a difficult if not impossible task. Implemented in 1999, the SCL was mandated by Congress with revisions to the Packers and Stockyards Act. It was created and administered by separate divisions within AMS, as the Grain Inspection, Packers and Stockyards Administration was not yet a part of AMS. The order by Congress to develop the CCL specifically states that it should be created and implemented by AMS.

Making comparison even more difficult, the two contract libraries are built on totally different platforms. The SCL contains every individual contract with redactions regarding the names of buyers and sellers. For price comparisons, each contract must be evaluated separately. The CCL does not look at each individual contract. It takes prices of each premium and discount and looks at the mean and the 25th and 75th percentiles.

In our opinion, the CCL is a much more user-friendly document. Because of compositional differences and different departments facilitating the two libraries, we believe combining or comparing them is doubtful and difficult to accomplish.

vi. Funding Concerns

The CCL must go through the legislative process for permanent funding after September 2023. A main concern of ours is that once it returns to Congress, additions could be made that seriously alter the usability of the library.

Another concern of ours is that if the industry elects to retain the CCL but it gets delayed in Congress, there could be a big gap in the data before permanent funding is in place.

RECOMMENDATIONS

We recommend that the CCL continue and be incorporated into LMR legislation that must be renewed every five years. We do not recommend the Farm Bill for funding the CCL because Farm Bill passage is cumbersome and the CCL is a natural fit with the funding for LMR.

We recommend that the actual versus estimated contract cattle volumes be dropped from the CCL. The number of contracts made on a weekly basis is too volatile. Specifically, the number of cattle placed on a grid for next week's slaughter changes rapidly. There will come a day when the number of contracts reported will skew the cash or especially the futures market.

We recommend further enhancement of the CCL website to incorporate the option to view the data as time series data to make it easier to see changes in data elements over time and to be better able to spot developing trends and potential seasonal shifts. This would allow market participants easier access to the information provided and an enhanced user experience.

We recommend that the industry and AMS work together to find a solution to report both the weight ranges involved in heavy and light weight carcass discounts as well the discounts associated with each range. This is likely the most complex topic in the premium and discount section of the CCL. We recommend the two groups also discuss the ability to report the thresholds of the percentage of out-of-spec or above-spec cattle on any specification before premiums or discounts are applied.

With authorization and funding for the CCL Pilot Program expiring at the end of the government fiscal year, we are concerned that ongoing weekly updates of the data may stop, and the industry could lose access to valuable information while new authorization and funding are sought through another program such as MPR. We ask the industry and AMS to work together to seek a bridge solution and keep updates and data flowing. Changes to the level of beef packer participation might make this less of a concern if the data reported changes in a material way.