

KSU - Hog Contract Evaluation Tool: Updated Decision-Aide

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As the US pork-swine industry continues to adapt, developments arise that benefit from sound information and resources to guide decision-making. The prospect of new, or alternative marketing arrangements between market hog sellers and buyers continues to be of interest. Accordingly, this fact sheet was updated (originally built in 2020) to provide an overview of an Excel-based resource designed to help alternative contracts be compared based on historical price data.

Overview

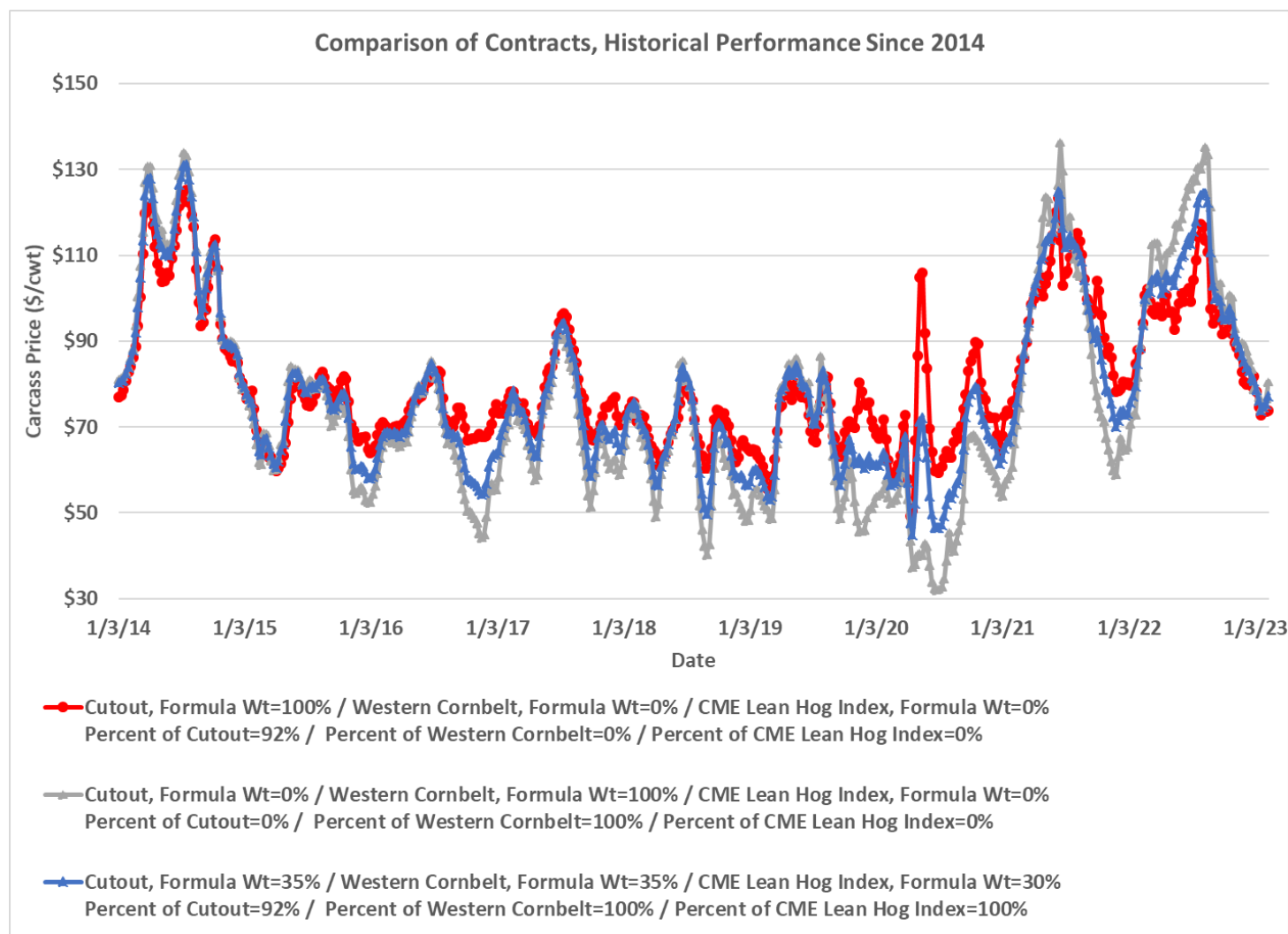
It is useful to first summarize the design of this resource. Historical weekly prices (\$/cwt) for the National pork cutout (FOB plant), the Western Cornbelt (\$/cwt, negotiated barrows & gilts), and CME Lean Hog Index (\$/cwt) since January 2014 are used to document historical price patterns. This supports comparing marketing alternatives, in the form of different candidate contracts that vary the weight placed on each price series and possibly apply premiums “over” reported values.

Accordingly, the ability to compare three marketing agreements is built into this resource. The default agreements can be described as:

1. 100% formula weight on the National pork cutout (incorporated at 92% of the reported value),
 - a. Here the Western Cornbelt price and CME Lean Hog Index are entirely excluded from the formula.
2. 100% formula weight on the Western Cornbelt price with a \$3.50/cwt premium over USDA reported values
 - a. Here the National pork cutout and CME Lean Hog Index are entirely excluded from the formula.
3. 35% formula weight on the National pork cutout (incorporated at 92% of the reported value) with a \$2.00/cwt premium over USDA reported values & 35% formula weight on the Western Cornbelt price with a \$3.00/cwt premium over USDA reported values & 30% formula weight on the CME Lean Hog Index (incorporated at 100% of the reported value) with a \$1.00/cwt premium over reported values.
 - a. This third default agreement is the most complex by design.

Example Interpretation – Default Situation

By design, the three example agreements vary to reveal some of the inherent trade-offs presented when particular specifications are adjusted. To appreciate this, note that over the 476 weeks covered since January 2014, the share of weeks yielding the highest prices is 63%, 31%, and 6%, respectively, for arrangements 1, 2, and 3. Meanwhile, the share of weeks yielding the lowest prices is 34%, 66%, and 0%, respectively, for arrangements 1, 2, and 3. The fact that each arrangement has periods where it would have yielded the highest price is noteworthy and illuminates trade-offs presented across the example agreements. The following figure appears in the “Chart” tab and reveals that all three arrangements move together in most periods but indeed vary at times in relative price order.



Furthermore, comparing summary statistics for the most recently completed five years (January 2018 – December 2022) reveals that while arrangement #3 has the lowest frequency of yielding the highest prices, it is also the alternative that yields the 2nd highest average, minimum, and maximum price. That is, there is a risk-reward trade-off clearly revealed which each individual buyer and seller must assess on their own.

Users interested in comparing alternative agreements can alter the **BLUE** values appearing in cells I3:K11. For instance, a candidate agreement placing full weight on the Western Cornbelt price with a \$5.00/cwt premium can be examined by adjusting cell J8 from the default value of \$3.50 to \$5.00. This will adjust the Gray line plotted in the chart tab.

Additional Considerations

This decision aide is built using weekly price data spanning from January 2014 to the middle of February 2023. While the use of weekly data enables a “cleaner” comparison, it does mask over important aspects of how use of daily prices may differ. Important consideration is also encouraged on how to handle dates where no price information is reported by USDA or reported prices apply to volumes deemed too low.

Furthermore, while this resource is built upon historical price information, the relative merits of alternative contracts in the future may well not align with past patterns. Attention to changes in market structure, the balance of market hog volumes with packing capacity, and related factors is encouraged.

Summary

This fact sheet aims to provide a resource to aide assessment of alternative market hog marketing contracts. Hopefully this and related data-driven resources can help guide more informed decision-making.

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