KSU - Hog Contract Evaluation Tool: Overview of Decision-Aide

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As the US pork-swine industry continues to adapt to the situation presented by COVID-19 (novel coronavirus), developments arise that benefit from sound information and resources to guide decision-making. Recently the prospect of new, or alternative marketing arrangements between market hog sellers and buyers has received heightened attention. Accordingly, this fact sheet was composed to provide an overview of a new Excel-based resource designed to help alternative contracts be compared based on historical price data.

Overview

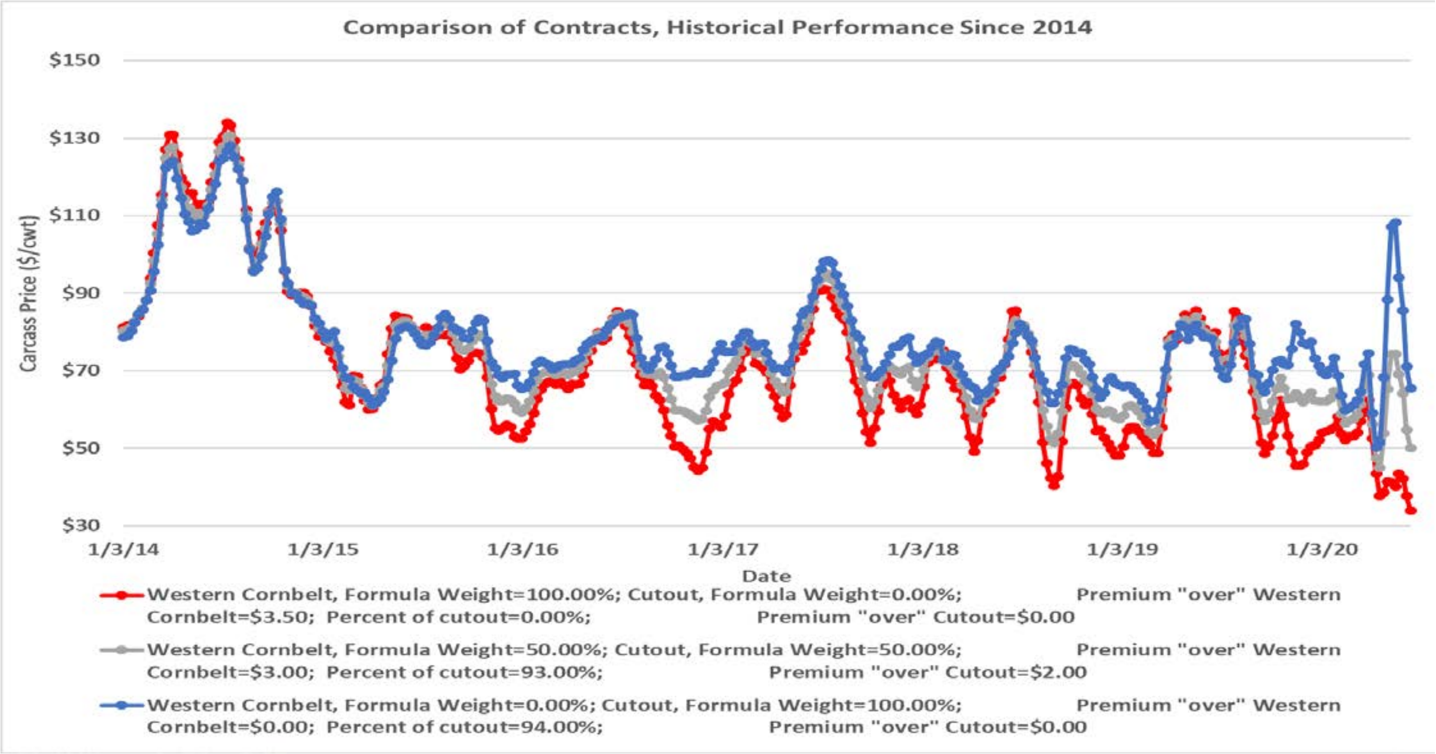
It is useful to first summarize the design of this resource. Historical weekly prices ($/cwt) for the National pork cutout (FOB plant) and the Western Cornbelt (Negotiated barrows & gilts) since January 2014 are used to document historical price patterns. Consistent with current industry challenges, the lowest prices occurring during this 6.5 year span have occurred here in 2020 during the COVID-19 pandemic. That said, of deeper relevance for comparing marketing alternatives is the relative pattern in these prices, once incorporated into contracts, that vary the weight placed on each price series and possibly apply premiums "over" USDA 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 Western Cornbelt price with a $3.50/cwt premium over USDA reported values
    a. Here the National pork cutout is entirely excluded from the formula
2. 50% formula weight on the Western Cornbelt price with a $3.00/cwt premium over USDA reported values & 50% formula weight on the National pork cutout (incorporated at 93% of the reported value) with a $2.00/cwt premium over USDA reported values
3. 100% formula weight on the National pork cutout (incorporated at 94% of the reported value),
    a. Here the Western Cornbelt price is entirely excluded from the formula

Example Interpretation – Default Situation

By design, the three example agreements vary in design to reveal some of the inherent trade-offs presented when particular specifications are adjusted. To appreciate this, note that over the 337 weeks covered the share of weeks yielding the highest prices is 23%, 4%, and 72%, respectively, for arrangements 1,2, and 3. The fact that each arrangement has periods where it would have yielded the highest price is noteworthy. 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 reveals that while arrangement #2 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 N3:P7. 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 N5 from the default value of $3.50 to $5.00. Doing this increases the share of weeks where this agreement would have yielded the highest price to 30% versus the 23% in the default, $3.50 premium case.

Additional Considerations

This decision aide is built using weekly price data spanning from January 2014 to the middle of June 2020. 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 timely 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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