

DEPARTMENT OF AGRICULTURAL ECONOMICS

Fed Cattle Grid Pricing

Ted C. Schroeder
Professor
Kansas State University

Ernest E. Davis
Professor and Extension Economist
The Texas A&M University System

Increased emphasis is being placed on value based marketing of fed cattle. In response to this trend, beef packers and numerous alliances have developed several ways to price beef carcasses. These pricing arrangements include price grids which are a schedule of premiums and discounts associated with beef carcass quality differentials. Producers need to carefully compare prospective grids with the type of cattle they are selling as they develop marketing and production plans. This report explains grid pricing and evaluates various grid price premiums and discounts.

Background

Value-based marketing refers to pricing cattle on an individual animal basis with prices across animals differing according to the underlying value of beef and by-products produced from each animal. Achieving value-based marketing of fed cattle has been an arduous task, as incentives to sell cattle on averages and problems associated with identifying beef quality have inhibited development of value-based pricing. Recently, several value-based fed cattle pricing systems have become prominent including formula pricing, price grids and alliances. Is there one best pricing method? How are live weight, dressed weight, and grid or formula prices related? The purpose of this fact sheet is to assist producers in evaluating which form of fed cattle pricing may be most profitable for them.

Fed cattle have been largely priced on a live animal basis. One of the greatest impediments to value-based pricing of fed cattle has been reluctance of both cattle feeders and beef packers to change from a live animal

pricing system to a carcass pricing system. In interviews with both beef packers and cattle feeding operations in 1996, Schroeder et al. found general agreement that pricing fed cattle on averages was detrimental to the industry because it did not send appropriate

price signals to cattle feeders, stockers, and, ultimately, cow-calf producers.

Enhanced opportunities to profit from better matching fed cattle prices to value have encouraged packers, alliances and producers to increase use of carcass based pricing.

Is Carcass Merit Pricing For You?

Should you market your cattle on a carcass merit basis? If so, does it matter which pricing system, packer or alliance you sell to? The answer to both questions is, it depends. It depends on several things, but the most critical factors that influence the profitability of these decisions include: 1) the quality and dressing percent of cattle you produce, 2) the Choice to Select market price spread, 3) production and feeding cost differences associated with targeting your cattle to a price grid or packer and 4) your knowledge about the price/quality distribution of your cattle and your ability to sort your cattle to meet the criteria of the grid or formula.

The ensuing analyses focuses on the price/cattle-quality relationships, with out considering production costs. This is not to imply production costs associated with attaining a particular quality-related price incentive are not important. They are critical to profitability. However, production costs differ across producers and cattle types, and are not explicitly evaluated here.

Cattle Pricing Methods

Fed cattle are priced predominantly in three ways: 1) live, 2) dressed weight or 3) carcass grade and yield or grid pricing. These three are similar in principle, however, they differ relative to each other and across firms.

Live Cattle Pricing

When fed cattle are priced on a live basis, price is generally negotiated between the packer and the feedlot based upon the expected value of the cattle when processed (a 4 percent pencil shrink on the cattle through transportation from the feedlot to the packing plant is usually included). To establish a buy order, the packer starts with a base Choice carcass price and adds or subtracts expected quality and yield grade premiums and discounts associated with quality traits the pen of cattle are expected to exhibit when processed. The adjusted carcass price is converted to a live animal price by multiplying it by the expected dressing percentage. This live price is credited with by-product and hide values and adjusted for slaughter costs, transportation costs, and the packer's profit margin, to establish an estimated live animal bid price. If packers can purchase a large number of cattle from one location at one time, they may increase their bid price to reflect reduced transactions and procurement costs.

Pricing cattle on a live basis is appealing to some cattle feeders who want to maintain complete flexibility in cattle pricing until the transaction price is established. However, because meat quality and carcass dressing percentage are difficult to accurately predict on live animals, premiums and discounts paid on a live basis are generally not reflective of the true cattle value associated with the final product's yield and quality. In other words, high quality cattle are often undervalued and low quality cattle often overvalued. Such situations have provided no incentive for producers to invest in better genetics and produce a higher quality product.

Dressed Weight Pricing

When cattle are marketed on a dressed-weight basis, the cattle buyer does not need to estimate dressing percentage of cattle. Price is established based upon the actual hot carcass weight. The dressed price offered is similar to the live price bid in that the buyer starts with a base Choice carcass price, adjusts it for expected quality and yield grade, weight premiums and discounts, by-products, slaughter costs (seller generally pays transportation on dressed cattle sales), and the packer's profit.

In principle, this price will be comparable to a live price adjusted for dressing percentage for the same pen of cattle. In practice, the dressed price (after transportation costs) may be greater or less than the dressing-percentage-adjusted live price since errors in estimating dressing percent are eliminated in dressed weight sales. If knowing the dressing percentage is of value to packers, then over time, across a large number of pens, the average dressed price should be greater than the average dressing-percentage-adjusted live price, other things equal.

Grid Pricing

Pricing cattle on a grade and yield or grid basis is essentially the same as pricing on a dressed weight basis except, in addition to dressing percentage, the packer also bases price on known quality grade of each animal in the pen. Many beef packers offer cattle producers the opportunity to price cattle on a carcass grid basis. Most packer grids list a base price for a Choice, yield grade 3, 550 to 750 pound, steer carcass. An example of a typical price grid offered by beef packers is presented in Table 1.

The price received for each carcass is the base price plus the particular premiums and discounts. For example, if the Choice yield grade 3, 550- to 750-pound carcass price was \$105 per hundredweight, a Select yield grade 4, 800-pound carcass would receive a price of \$77 per hundredweight (\$105 per hundredweight – \$24 per hundredweight – \$4 per hundredweight).

The USDA reports a weekly survey summarizing selected beef packer grid premium and discount schedules. This report is on the internet at <http://>

Table 1. Example Grid Premiums & Discounts

(Assumes Choice-Select Spread of \$9.00/cwt)					
	Yield Grade				
VARIABLES	1	2	3	4	5
GRADES	(\$/cwt Carcass)				
Prime	8.00	7.00	6.00	-9.00	-14.00
CAB	3.00	2.00	1.00	N.A.	N.A.
Choice	2.00	1.00	Base	-15.00	-20.00
Select	-7.00	-8.00	-9.00	-24.00	-29.00
Standard	-16.00	-17.00	-18.00	-33.00	-38.00
CARCASS WEIGHTS	OTHER				
550-749 lbs.	Base		Dark Cutter, etc.		-25.00
750-950 lbs.	-4.00		Bullock/Stags		-25.00
Less than 550 lbs.	-19.00				
Greater than 950 lbs.	-19.00				

www.ams.usda.gov/mnacs/mn_reports/NW_LS195.txt. (National Carcass Premiums and Discounts for Slaughter Steers and Heifers). The NW LS195 USDA report is useful for understanding average grid price premiums and discounts being offered by packers and raising awareness of the range of discounts and premiums.

Table 1 illustrates how quickly price discounts increase with yield grades 4 and 5 and with quality grades below Choice (Select and Standard). In this example the discount from Choice to Select is a relatively severe \$9 per hundredweight. The discounts between Choice and Select quality grades may range from \$1 per hundred weight to \$12 per hundred weight, depending on the supplies of Choice versus Select carcasses and the demand for such. Large discounts generally exist for Standard grade carcasses, dark cutter carcasses and carcasses lighter than 550 pounds or heavier than 950 pounds. Some grids also offer premiums and discounts for hide quality.

For many packers' grids, price premiums and discounts are additive. That is, the base price is adjusted in an additive manner for the associated characteristics it possesses. For some packers, not all premiums and discounts in their price grid are additive. For example, some packers quote the same price for all Standard grade cattle, regardless of yield grade. The USDA grid summary report assumes additive discounts and premiums. In addition, this report, is not volume-weighted and only includes packer-stated grids, not actual purchases. As a result, the report does not represent market average grid prices. This is important to understand when interpreting both the USDA price report and comparing it with any particular packers' grids you may be considering.

Summary of Pricing Methods

Table 2 contains a summary and comparison of issues associated with typical fed cattle pricing arrangements. Differences across the various methods of fed cattle trade are important because price will likely differ across the various pricing methods even for the same pen of cattle. Prices for the same pen of cattle may differ because different kinds of information are used in the various pricing methods to arrive at a price. The key element is that as a producer moves from live cattle pricing, to dressed weight, to grid pricing, it is increasingly important to understand the type of cattle being marketed, the pricing system being used, and to assess probable net price received.

Table 2. Assessing Ways to Sell Fed Cattle

Pricing Attribute	Cattle Pricing Method		
	Live	Dressed	Grid
Pricing Level	pen	pen	animal
Paid for Quality	no	no	yes
Paid for Yield	no	dressed	yes
Price Range across Carcasses	none	some	high
Trucking Costs	buyer	seller	seller
Base Price	live	dressed	varies
Performance Risk	buyer	buyer	seller

Formulas: Importance of Base Price

When fed cattle are priced on formula, an important issue to consider in addition to the premium/discount structure, is the base price. In interviews with packers and cattle feeders, Schroeder et al. discovered several different types of base prices being used. Base prices used included the average price of cattle purchased by the plant where the cattle were scheduled to be slaughtered. The average price of cattle was usually for the week prior to, or the week of slaughter. Other base prices were specific market reports, e.g., highest reported price for a specific market for the week prior to, or week of slaughter. One base price was tied to live cattle futures prices. Some base prices were negotiated. Some base prices were on a carcass weight basis whereas others were reported on a live weight basis based upon yields of the cattle slaughtered.

Many packers have established base prices using plant average quality grades and dressing percentages of cattle slaughtered during the week. Before agreeing to deliver cattle to a particular packer on formula, the producer should understand in detail how the base price is calculated and obtain some base price quotes over time from several packers.

Importance of Grid Premiums/Discounts

When selling cattle on price grids, in addition to considering base prices, cattle producers need to carefully evaluate the price premium/discount structures of various packers' grids and determine which grid is most advantageous to them given their cattle. Individual packer grids offer significant price differences for the same quality of cattle. In addition, different packers value traits differently.

In comparison of prices for 1,300 pens of steers using several packers' grids, pens of Choice yield grade 2-3 cattle, with no out cattle (i.e., dark cutters, stags, bullocks etc.), and carcass weights between 550

and 950 pounds often receive similar prices across packer grids. However, pens of cattle with even small percentages of superior or poorer quality grade carcasses, higher or lower yield grades, differing weights, or more out cattle have much more price variability across packers. For this reason, it is important for cattle producers to know their cattle, sort cattle carefully and target them for specific packers.

Grid Price Determinants over Time

In addition to variability in prices across grids, it is important producers understand determinants of price differences over time. Small changes in dressing percentage alter relative advantages of selling on either a live or dressed basis. For example, with a \$65 per hundredweight live steer price and a \$102.50 per hundredweight dressed carcass price, cattle dressing higher than 63.4% will receive a higher price per head sold dressed rather than live, and cattle with lower dressing will receive a higher price on a live basis.

With these prices, a 1200 pound live steer will gain \$6 per head in value for each 0.50 increase in dressing percentage.

Over time, one of the most important determinants of price grid premiums and discounts is the Choice to Select carcass price spread. The greater the Choice to Select spread, the greater the price discount for lower quality pens of cattle. The Choice to Select price spread varies over time as the supply of cattle and demand for beef by quality grade changes.

Yield grade premiums and discounts have remained relatively stable over time across packer grids. Therefore, this pricing factor is expected to remain more predictable than say the Choice to Select price spread.

References

Schroeder, T.C., C.E. Ward, J. Mintert, and D.S. Peel. "Beef Industry Price Discovery: A Look Ahead." Research Institute on Livestock Pricing, Research Bulletin 1-98, March 1998.

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