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Fed Cattle Grid Pricing

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Value-based marketing refers to pricing cattle on an individual animal basis. Prices differ according to the underlying value of beef and by-products produced from each animal. It has been difficult to achieve value-based marketing of fed cattle, because incentives to sell cattle on averages and problems associated with identifying beef quality have inhibited development of value-based pricing. Both cattle feeders and packers have been reluctant to change from a live animal pricing system to a carcass pricing system. However, 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.

Opportunities to profit from better matching fed cattle prices to value have encouraged packers, alliances and producers to use carcass-based pricing. Now there are several value-based fed cattle pricing systems, 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 publication is to help producers decide which form of fed cattle pricing may be most profitable for them.

Is Carcass Merit Pricing For You?

Should you market your cattle on a carcass merit basis? If so, does it matter which pricing system you use or which packer or alliance you sell to? The answer to both questions is, it depends. 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 particular price grid or packer; and most importantly 4) your knowledge about the price/quality distribution of your cattle and your ability to sort your cattle to meet the criteria of the particular grid or formula. The following analyses focus on the price/cattle quality relationship, without considering production costs. This is not to imply that production costs associated with attaining a particular quality-related price incentive are not important. They are critical to profitability. However, production costs differ with producers and cattle types, and are not explicitly evaluated here.

Cattle Pricing Methods

Fed cattle usually are priced in one of three ways: 1) live; 2) dressed weight; or 3) carcass grade and yield or grid pricing.

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 adjust-

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ed 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 predict accurately on live animals, premiums and discounts paid on a live basis generally do not reflect the true value of the final product. In other words, high quality cattle are often under-valued and low quality cattle often over-valued. This gives producers no incentive to invest in better genetics and produce a better product.

Dressed Weight Pricing

When cattle are marketed on a dressed-weight basis, the cattle buyer does not need to estimate the dressing percentage. Price is 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 and 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, the dressed-weight 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 higher or lower because there are no errors in estimating dressing percentage. 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 being 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 that in addition to dressing percentage, the packer also bases price on the 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 shown in Table 1.

Table 1. Example Grid Premiums and 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		
More than 950 lbs.	-19.00		

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/cwt., a Select, yield grade 4, 800-pound carcass would receive a price of $77/cwt. ($105.00/cwt. -$24.00/cwt. - $4.00/cwt.).

The USDA reports a weekly survey summarizing selected beef packer grid premium and discount schedules. This report is on the internet at http://www.ams.usda.gov/mncs/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 for 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/cwt. The discounts between Choice and Select quality grades may range from $1.00/cwt. to $12.00/cwt., depending on the supplies of Choice versus Select carcasses and the demand for each. There are usually large discounts 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 of the carcass. 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 the USDA price report and comparing it with any particular packers' grids you may be considering.

Summary of Pricing Methods

Table 2 summarizes and compares issues associated with typical fed cattle pricing arrangements. Differences in the various methods are important because they use different kinds of information and cause prices to differ even for the same pen of cattle. The key 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 and the pricing system being used, and to assess probable net price received.

Table 2. Assessing Ways to Sell Fed Cattle.

	Cattle pricing method		
Pricing attribute	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 consideration, 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. One was the average price of cattle purchased by the plant where the cattle were 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 such as 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 should carefully evaluate the price premium/discount structures of various packers' grids and determine which grid is most advantageous to them. Different grids may offer significantly different prices for the same quality of cattle. In addition, packers value traits differently.

Pens of cattle that are fairly uniform generally bring similar prices with different packer grids. However, pens with even small percentages of higher or lower grade carcasses, heavier or lighter animals, or more than the average number of "out" cattle (dark cutters, stags, bullocks, etc.) have much more variable prices. 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 that 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/cwt. live steer price and a $102.50/cwt. dressed-carcass price, cattle dressing higher than 63.4 percent will receive a higher price per head if sold dressed rather than live, and cattle with a lower dressing percentage will receive a higher price on a live basis. With these prices, a 1200-pound live steer will gain $6/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 cattle. The Choice to Select price spread varies over time as the cattle supply and demand for specific quality grades change.

Yield grade premiums and discounts have remained relatively stable over time for all packer grids. Therefore, this pricing factor is expected to remain more predictable than 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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