Price Comparison of Alternative Marketing Arrangements for Fed Cattle

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A previous Extension fact sheet, AGEC-598, *Captive Supply Price Relationships and Impacts* (available at http://pods.dasnr.okstate.edu/docushare/dsweb/View/Collection-236) compared prices for captive supply arrangements using new data for fed cattle, which became available following passage of the Livestock Mandatory Reporting Act. Since then, the phrase, "alternative marketing arrangements," has tended to replace the phrase "captive supplies." Alternative marketing arrangements also could be correctly termed alternative procurement or purchasing arrangements – depending on one's viewpoint as a livestock seller or buyer.

This fact sheet is a companion to another, AGEC-615, *Extent of Alternative Marketing Arrangements for Fed Cattle and Hogs* (available at http://pods.dasnr.okstate.edu/docushare/dsweb/View/Collection-236). The companion fact sheet reports volume of purchases by alternative marketing arrangements. This one compares prices received and paid for fed cattle by alternative procurement methods over the seven-year period since implementing mandatory price reporting. It extends the previous fact sheet by adding another four years of weekly price data.

Data are taken from selected mandatory price reports at the Agricultural Marketing Service, or AMS, Market News site for livestock reports (http://www.ams.usda.gov/AMSv1.0/ams.fetchTemplateData.do?template=TemplateB&navID=MarketNewsAndTransportationData&leftNav=MarketNewsAndTransportationData&page=LSMarketNewsPage). The primary question addressed in this fact sheet is: are there significant differences in prices paid for fed cattle in the cash market compared with other procurement methods?

Pricing Method Data from Mandatory Price Reports

Implementation of the Livestock Mandatory Reporting Act occurred in April 2001. A few kinks in the new reporting system were worked out the first few weeks so the analysis for this fact sheet begins in May 2001 and extends through May 2008. Therefore, this summary is for a full seven-year period. For convenience, years are identified by their end point. The year beginning in May 2001 and ending in May 2002 is referred to as 2002; the year ending May 2003 is referred to as 2003; and similarly for the remaining years 2004 to 2008.

Alternative marketing/procurement arrangements discussed here fall into four categories for fed cattle: negotiated cash trades, forward contracts (mostly basis contracts), formula arrangements (mostly marketing/purchasing agreements with price tied to the cash market), and negotiated grid trades. A comparison of prices for packer-owned transfers of fed cattle from feedlot to slaughter plant was not possible since packers are not required to report these transfer prices under mandatory price reporting.

Fed Cattle Price Comparisons

Mandatory price reporting data are discussed from two aspects in this section. The first considers annual averages from which we can identify general trends. The second shows the week-to-week dynamics that are found among alternative marketing methods.

Annual Averages

Table 1 provides summary statistics for the alternative pricing methods for the seven-year period, May 2001 to May 2008, since implementing mandatory price reporting.

All price comparisons are for steers and are expressed on a dressed weight basis. Negotiated cash prices are essentially a five-state, weighted average price including all grades of fed cattle. States represent the major cattle feeding areas of Texas-Oklahoma, Kansas, Nebraska, Colorado, and Iowa-Southern Minnesota. It could be argued that the five-state, weighted average price is the most comprehensive reported price and is most representative of market conditions in the cash market, both for live weight and dressed weight trades. Here, negotiated cash prices are used as the base, or standard, for comparing prices reported by alternative procurement methods.

Year-to-year differences exist among alternative marketing or procurement arrangements but those differences are not consistent. Formula price transactions were higher than negotiated cash prices in six of the seven years but negotiated prices were highest in 2004. Forward contract prices were several dollars per hundredweight higher in 2008 than other arrangements on average, but were several dollars per hundredweight lower on average than other arrangements in 2004. Thus, it seems no single procurement or marketing method has a pricing advantage on average for long periods of time.

One part of Table 1 is misleading. It would appear negotiated grid prices were higher than other procurement methods for the entire period. However, AMS did not begin reporting negotiated grid pricing until 2004 so the two, lowest-price years of the seven-year period (2002 and 2003) are not included in the 2004-2008 average for negotiated grid pricing. Negotiated grid pricing was higher than some methods in certain years, but lower than some in other years.

One of the major concerns with some producers is whether or not there are special "sweetheart" deals between packers and some feedlots. Some allege packers offer favorable pricing arrangements to selected feedlots which are not offered to all cattle feeders. Given the annual average prices reported here, while sweetheart deals may exist between individual firms, there is no significant advantage on average for one pricing method over another. However, the averaging process may mask what happens in reality. To know whether or not that is the case, individual transaction prices would be required, as opposed to the weekly prices used here.

Another major concern of some producers and others is whether or not some alternative pricing arrangements are used strategically by packers to keep cash market prices artificially low. This fact sheet does not address that question directly. Research conducted generally shows a negative but small relationship between so-called captive supplies (essentially formula pricing, forward contracts, and packer-owned transfers) and cash market prices (Ward, Koontz, and Schroeder 1998; Schroeter and Azzam 2003; Schroeter and Azzam 2004; Muth et al. 2008).

Price Comparison – All Alternative Marketing Arrangements

Figure 1 compares weekly average dressed steer prices for the four alternative marketing arrangements. Overall, all pricing methods track each other closely as fed cattle market prices move up and down seasonally and cyclically. You can see that one method may be higher or lower than others at times but there are no consistently large deviations among the four methods. Thus, each is generally representative of broad market conditions (termed price determination), but not what might be affecting prices within and between weeks (termed price discovery).

Deviations are evident but usually for just a few weeks, not for extended periods. There were several weeks over the last seven years when all prices were essentially pennies per hundredweight apart from each other. This seems especially important given the concerns of many cattlemen and others regarding captive supply prices vs. cash market prices. Neither of the two pricing methods that are typically associated with captive supplies (formula prices and forward contract prices) is consistently above cash market prices.

In the following sections, negotiated cash prices are presumed to be the standard for comparison. Each alternative method is compared individually with negotiated cash prices.

Negotiated Cash Prices versus Formula Prices

One concern for many supporters of mandatory price reporting was the presumed favorable relationship of formula prices relative to negotiated prices. Figure 2 compares negotiated cash prices with formula prices. There is a small, noticeable difference between the two series in most weeks. However, never do the two deviate from each other for long periods or by large amounts.

As shown in Table 1, formula prices on average for the seven-year period were $0.56/cwt. higher than negotiated

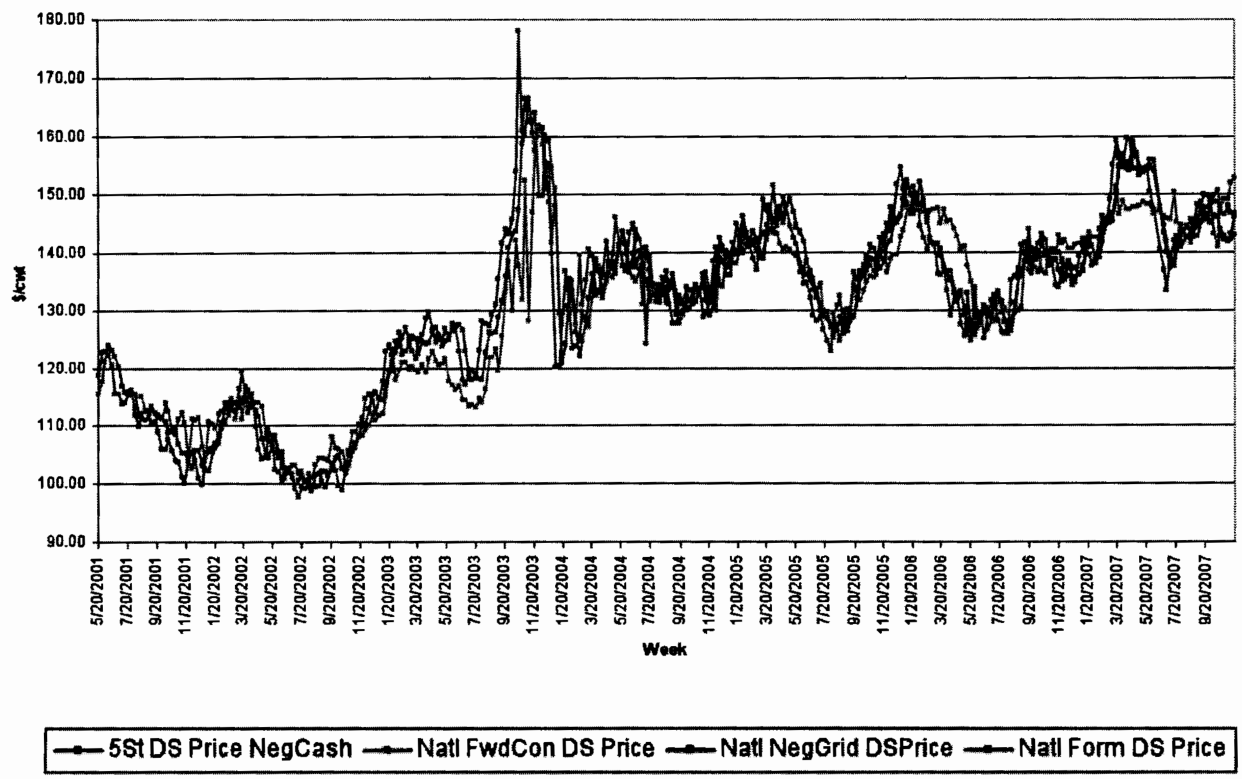

Figure 1. Fed cattle prices by alternative marketing arrangements, May 2001 to May 2008.

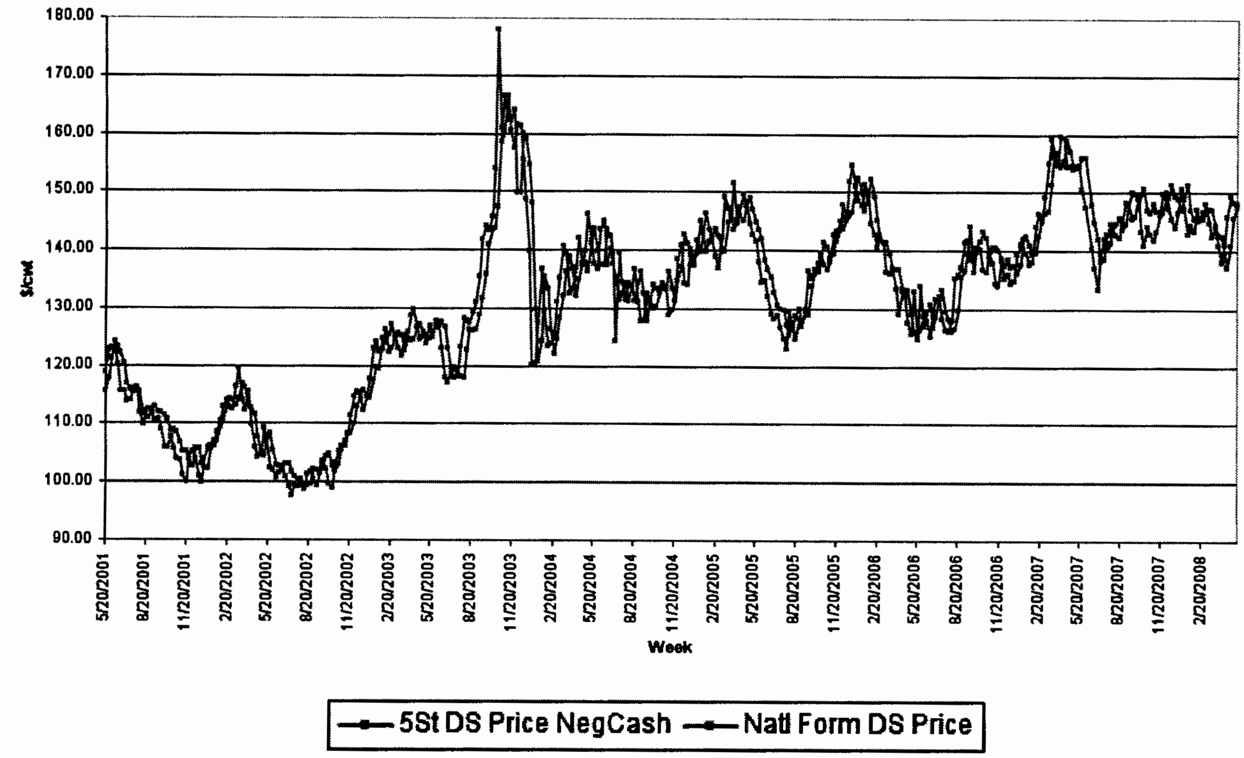

Figure 2. Negotiated cash prices for fed cattle compared with formula prices, May 2001 to May 2008.

cash prices. Additionally, formula prices averaged higher than negotiated cash prices in six of the seven years. Possible reasons formula prices are higher on average than negotiated cash prices are that marketing agreement cattle may be of better quality or sold in larger lots than cash market cattle. A careful look at Figure 2 reveals that negotiated prices tend to be lower than formula prices on a declining market. Conversely, formula prices tend to trail negotiated prices on a rising market. A regression model of the price differences confirmed this observation (Ward 2008).

Understanding how base prices in grids are discovered adds to the understanding of the price differences noted here. Many base prices in grids are formula priced with the base price tied to last week's cash market, either a reported cash market price quote or the average cost of fed cattle at the packer's plant where the cattle were slaughtered. Therefore, one would expect a close relationship between the formula price this week and the negotiated cash price last week.

Negotiated Cash Prices versus Forward Contract Prices

Figure 3 compares negotiated cash prices with forward contract prices. Forward contract prices deviate sharply in some weeks from negotiated cash prices. As with formula prices, regression analysis confirmed that negotiated prices tend to be lower than forward contract prices on a declining market. Conversely, forward contract prices tend to be lower than negotiated prices on a rising market.

Price differences between these two methods likely arise in large part due to the time period in which prices are discovered in forward contracts versus cash prices. Most cash trades consist of fed cattle purchased within one week of slaughter, whereas forward contract prices may be discovered much further in advance of slaughter. Most forward contracts for fed cattle are basis contracts. Packers bid a futures market basis in the month fed cattle are expected to be marketed. Then, anytime between the time cattle are contracted and when cattle are delivered for slaughter, which could be several weeks, cattle feeders may pick or lock in the fed cattle price. Forward contracts may be made between buyer and seller when cattle are placed in the feedlot or anytime they are on feed. After agreeing to the forward contract, cattle feeders watch the futures market and try to determine when the live cattle futures market price has peaked for the contract expiring just after the time cattle will be slaughtered. As a result of this process and depending on futures market price behavior, the average forward contract price may or may not be close to the current weekly cash market price. Price differences between forward contract and cash transactions result from average weekly prices not being computed for the same price discovery periods for the two pricing methods.

Negotiated Cash Prices vs. Negotiated Grid Prices

Opposition to the use of formula pricing by some cattle feeders, led to increased interest in negotiating the base price in grid pricing transactions. In April 2004, AMS began reporting negotiated grid pricing volume and prices. Figure 4 shows a comparison of negotiated cash prices with negotiated grid prices. For the comparison period, the relationship between

Table 1. Summary of weekly prices paid by packers for fed steers by procurement method, 2002 to 2008.

		Summary statistics			
Procurement method	*Year***	*Mean (head)*	*Standard deviation*	*Minimum*	*Maximum*
Negotiated cash	2002	110.42	5.96	99.82	123.03
	2003	111.41	10.86	97.64	129.82
	2004	136.98	14.66	117.11	177.97
	2005	138.07	6.27	127.78	151.55
	2006	137.04	8.16	123.04	154.59
	2007	139.27	9.68	125.05	159.75
	2008	144.93	4.08	133.40	154.44
	2002-08	131.16	15.90	97.64	177.97
Forward contract	2002	111.78	3.02	104.05	120.80
	2003	110.74	7.66	99.43	123.42
	2004	131.34	13.16	113.10	161.82
	2005	137.33	4.45	128.88	144.25
	2006	138.62	6.50	126.37	147.83
	2007	138.86	6.75	125.59	151.34
	2008	150.52	4.06	141.54	157.29
	2002-08	131.92	15.34	99.43	161.82
Formula agreement	2002	111.42	5.55	120.20	124.10
	2003	111.68	9.99	99.48	127.17
	2004	135.65	13.81	117.98	166.39
	2005	138.63	5.50	124.37	149.07
	2006	138.65	7.48	125.37	152.42
	2007	139.35	9.10	124.83	159.12
	2008	146.64	4.12	137.19	156.01
	2002-08	131.72	15.62	99.48	166.39
Negotiated grid	2002				
	2003				
	2004	136.57	2.11	133.16	138.27
	2005	138.11	5.70	127.91	149.12
	2006	137.88	7.42	125.65	151.82
	2007	138.65	8.61	126.21	157.95
	2008	144.82	3.90	137.34	154.93
	2002-08	139.79	7.14	125.65	157.95

* Dressed weight price per cwt.

** Year 2002 is May 2001 through April 2002; and similarly for other years.

Source: Agricultural Marketing Service, U.S. Department of Agriculture.

the two pricing methods is very similar to negotiated cash prices and formula prices. Small, consistent differences exist. Again, regression confirmed negotiated cash prices trailed negotiated grid prices on a declining market but negotiated grid prices trailed negotiated cash prices on a rising market.

An explanation for the price differences relates again to the pricing process. Packers and feeders may negotiate the base price this week for grid priced cattle, but cattle are likely delivered and slaughtered next week. The net grid price, which is the base price plus and minus carcass premiums and discounts, cannot be computed until after cattle are slaughtered. Therefore, net grid prices reported this week from negotiated grid trades are close to negotiated cash prices for the previous week.

Conclusions

Mandatory price reporting increased the amount of data and information available on various pricing methods and quantities traded for fed cattle. Comparisons are easier now than before mandatory price reporting between prices paid by packers for fed cattle purchases by alternative methods, including methods that constitute captive supplies. Data also enable more regular and more detailed analyses of market impacts from captive supplies and related questions than previously.

Analyses with weekly data for the seven years, since mandatory price reporting began, can be summarized as follows:

- Differences between annual average negotiated cash prices and prices from alternative marketing arrangements (that is, formula prices, forward contract prices, and negotiated grid prices) were generally small and varied from year to year. No pricing method consistently was higher or lower than others on an annual basis for the seven-year period.
- Considerable week-to-week variation in prices is evident. Overall, for the seven-year period, all pricing methods track the dynamics or general movement of market prices, which are determined by supply and demand forces.
- Differences between negotiated prices and prices from alternative marketing arrangements from week to week were related to rising and declining market prices. For all alternative arrangements compared with cash prices, negotiated cash prices were lower than other prices on a declining market and higher in times of rising market prices.
- Differences between negotiated prices and prices from alternative marketing arrangements can be explained in most cases by the underlying mechanics of price discovery for each arrangement. The timing of discovering the sale/purchase price affects the weekly average price reported.

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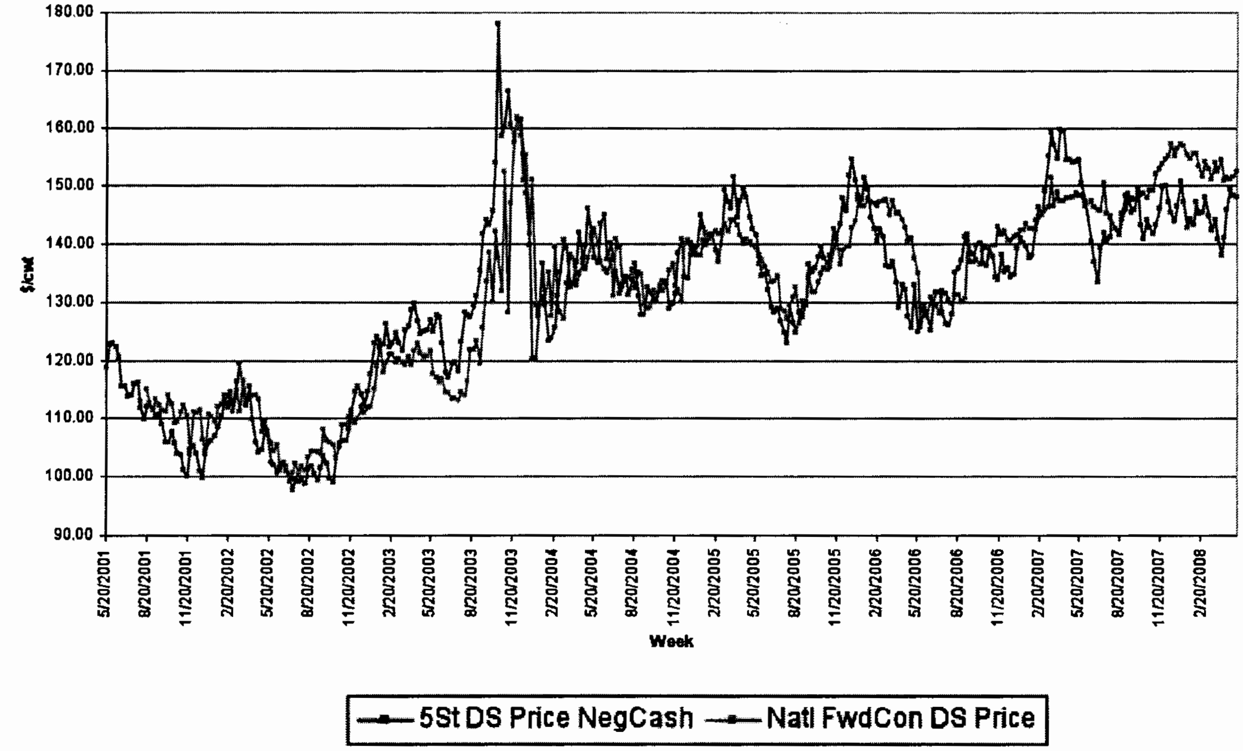

Figure 3. Negotiated cash prices for fed cattle compared with forward contract prices, May 2001 to May 2008.

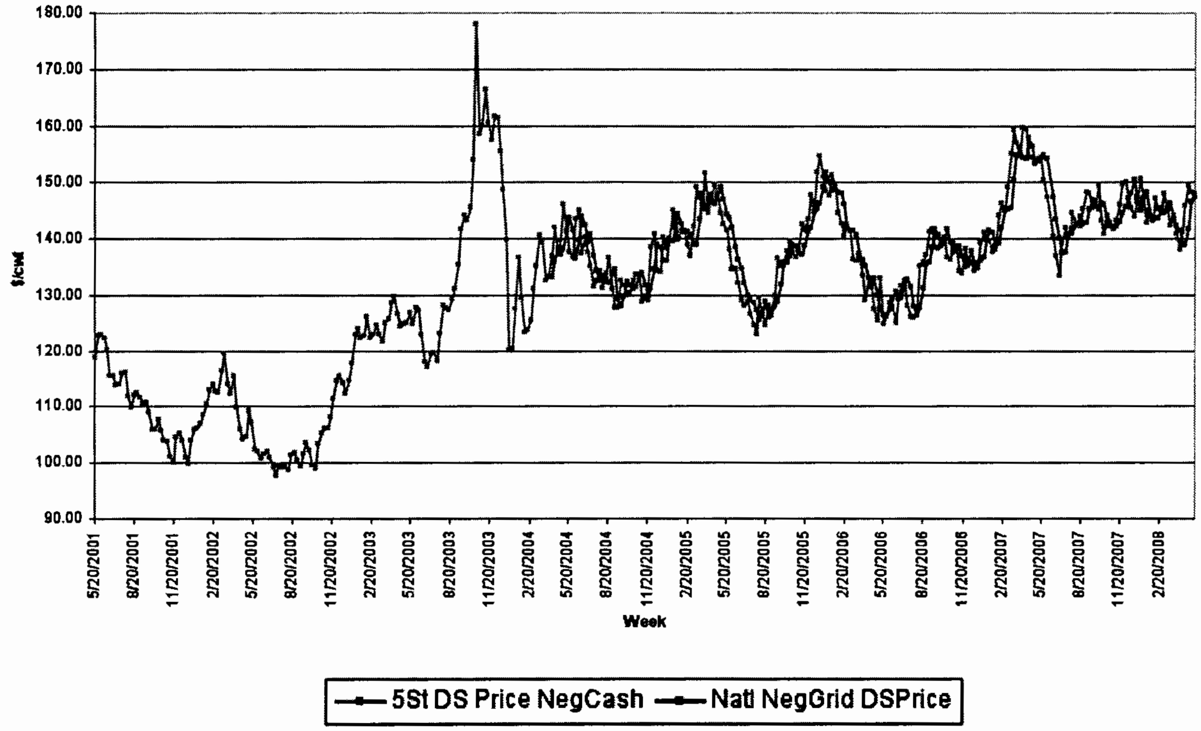

Figure 4. Negotiated cash prices for fed cattle compared with negotiated grid prices, May 2001 to May 2008.

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The Cooperative Extension Service is the largest, most successful informal educational organization in the world. It is a nationwide system funded and guided by a partnership of federal, state, and local governments that delivers information to help people help themselves through the land-grant university system.

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- Extension programs are nonpolitical, objective, and research-based information.
- It provides practical, problem-oriented education for people of all ages. It is designated to take the knowledge of the university to those persons who do not or cannot participate in the formal classroom instruction of the university.
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