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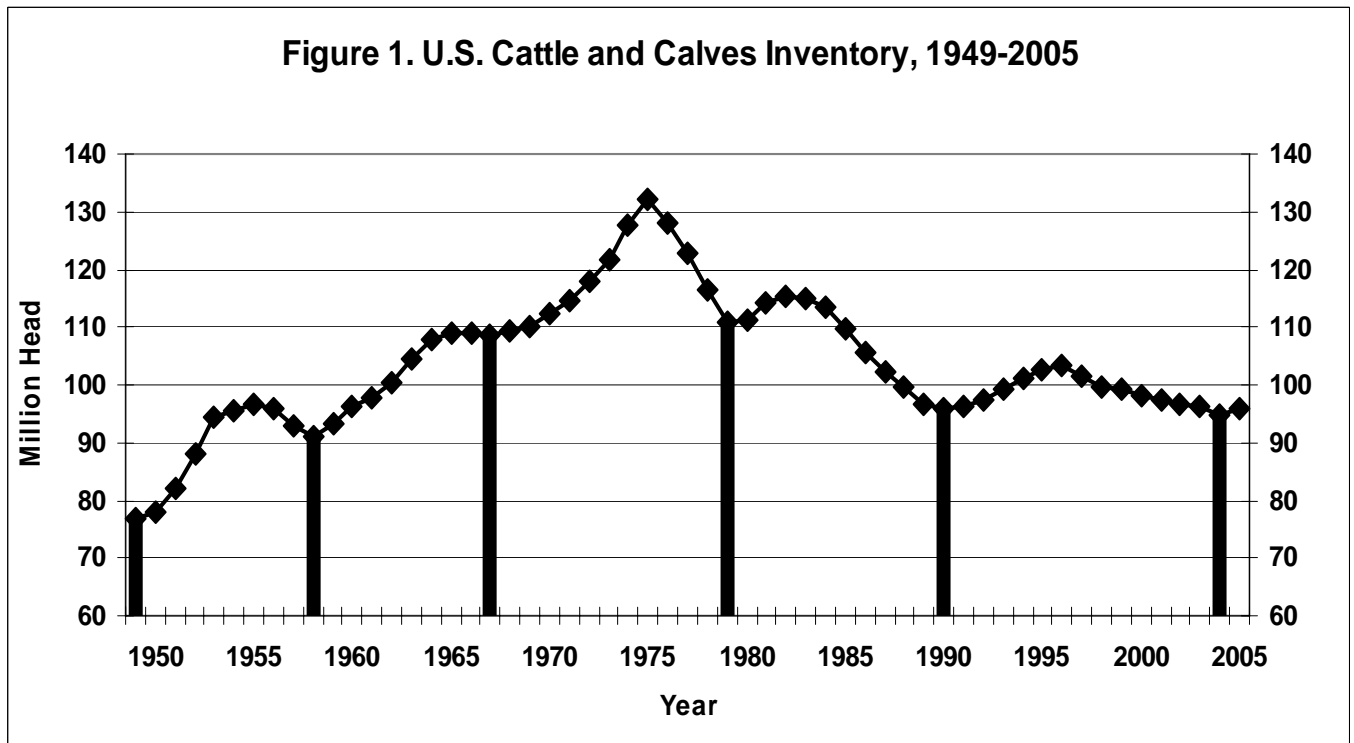
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U.S. Cattle Cycles and Alabama Seasonal Cattle Price Trends

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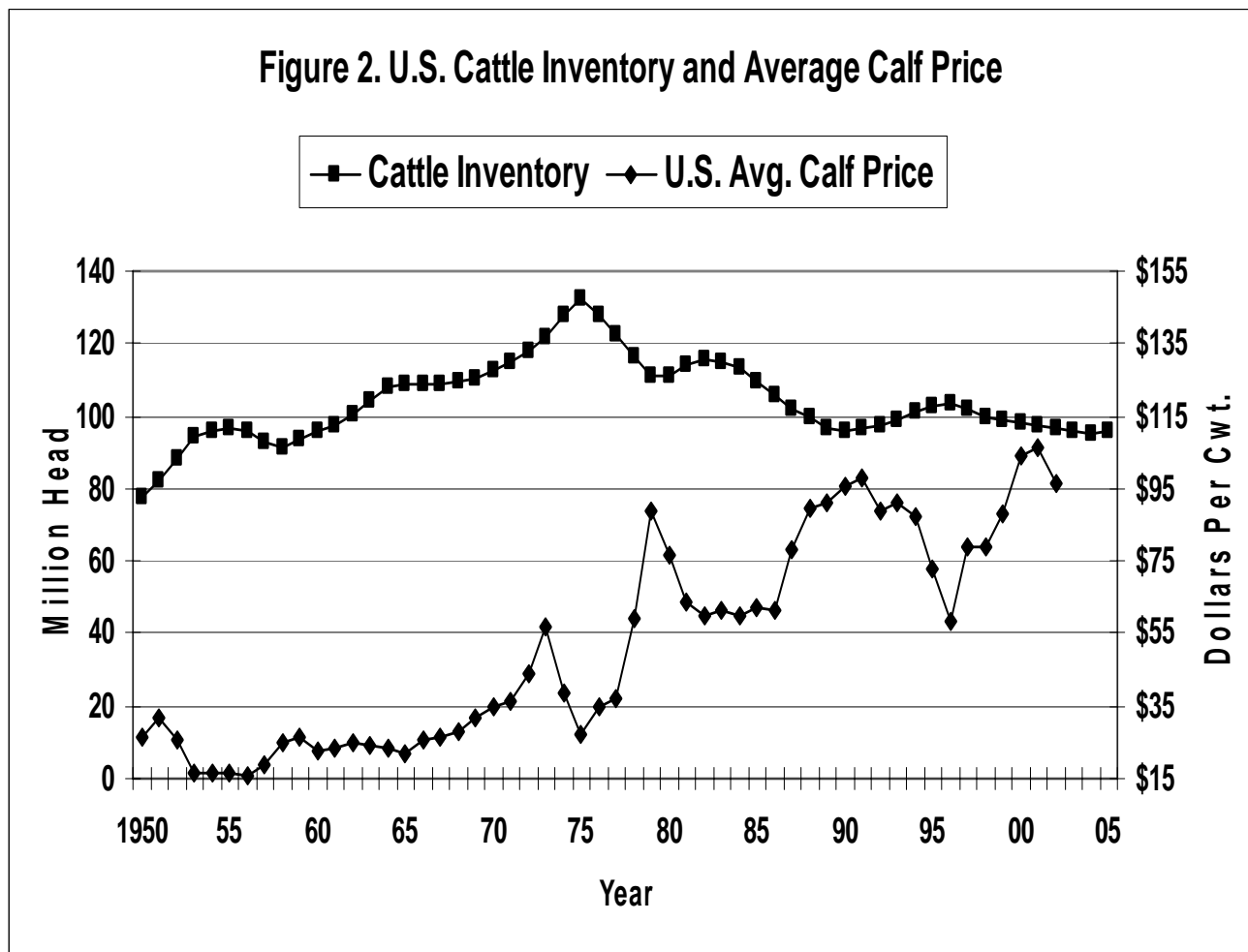
What is a cattle cycle? The U.S. cattle cycle is best described by the inventory of cattle and calves on farms over time. The United States Department of Agriculture (USDA) conducts two surveys per year (January 1 and July 1) to estimate the number of cattle and calves on U.S. beef and dairy operations. A cattle cycle documents a pattern of expansion and contraction of the inventory of cattle and calves over time. Thus, a cattle cycle is measured as the period of time from the lowest cattle and calves inventory number to the next lowest inventory number over time. Some cattlemen describe the cattle cycle as being from trough to trough. It is generally believed that the cattle inventory increases over time due to higher market prices (profits) and then declines due to lower market prices (losses from over supply, etc.). Graphically, the cattle cycle is mound shaped (1949-58, 1958-67, 1967-79, 1979-1990, 1990-2004, and 2004-?), as shown in Figure 1.



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Each cattle cycle has four phases: the consolidation phase, the expansion phase, the peak, and the liquidation phase. The consolidation phase lasts until beef prices begin to reflect reduced beef production and the potential for higher beef prices. The expansionary phase normally begins as cow culling rates decline and an increase in the number of heifers being retained for breeding purposes is experienced. This generally occurs as beef supplies decline and prices rise. The peak occurs in the cattle cycle as the number of cattle and calves increase and beef supplies gradually increase to where supply has shifted out (to the right), and as a result beef prices significantly decline. The peak is followed by the liquidation phase. The liquidation phase is characterized by low prices for all classes of cattle. These lower prices force beef producers to reduce their inventory of cattle and calves which initially further increases beef supplies and reduces beef prices. Liquidation continues until beef supplies sufficiently decline to shift supply back (to the left) and result in higher beef prices. In addition, changes in beef demand (due to changes in consumer tastes and preferences, disposable income, policy/regulations, etc.) can also simultaneously shift and have an effect on the cattle cycle.

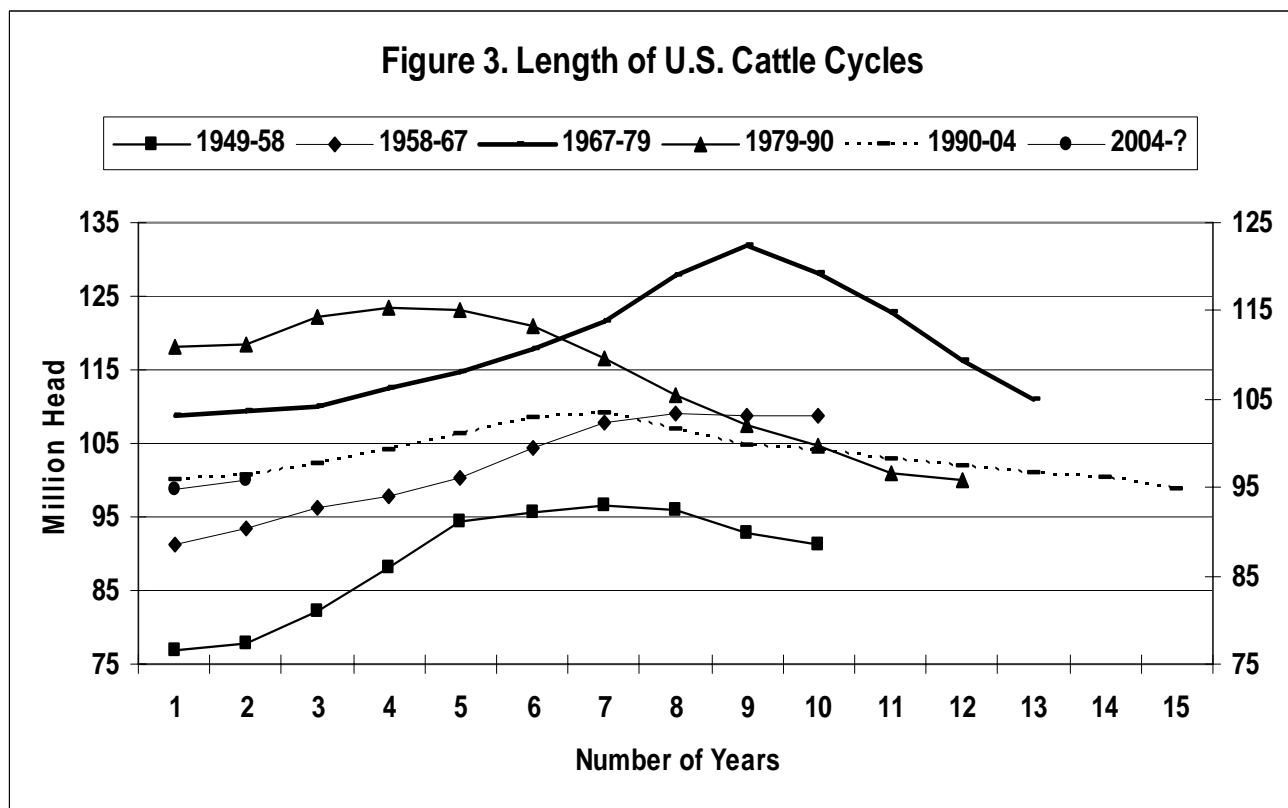
The relationship between U.S. cattle inventory and average U.S. calf price is shown in Figure 2. The U.S. inventory of cattle and calves and U.S. average calf price move in opposite directions. As cattle inventory builds, average calf price declines. Likewise, after cattle and calves inventory numbers decline, average calf price increases.



What is the normal length of a cattle cycle? Several factors can influence the length and severity of the cattle cycle. As you might expect, higher market prices (profits) lead to increases in cattle and calves inventory and lower market prices (losses from oversupply) lead to decreases in cattle and calves inventory. The more sustaining the period of profitability in cow calf operations, the longer the expansionary phase will be. Likewise, the longer the period of losses incurred, the longer the liquidation phase of the cycle. It is our belief that the expansionary phase of the most recent cattle cycle (1990-2004) was normal, lasting about 7 years until 1996. However, the liquidation phase of this cattle cycle was longer than expected due to a combination of an extended drought in western states, increased market uncertainty that U.S. producers have incurred (terrorist events, wars, trade bans, food safety concerns, etc.) and rising production costs.

The last five cattle cycles have ranged from 10 to 15 years in length. Two cycles have been 10 years in length (1949-58 and 1958-67), one cycle was 12 years (1979-90), and one cycle was 13 years (1967-79). The last cattle cycle (1990-2004) was 15 years. The 1967-79 cattle cycle was unusual in length and severity with those conditions attributed to President Nixon's beef price freezes, the oil price shocks of the 70's, and drought and high grain prices compounding the adjustment process in cattle numbers (Mathews et al., USDA, 1999, p. 14). Since 1928, the average length of the six cattle cycles has been about 10 years (Andersen, et al.).

Figure 3 shows the length of the current and previous 5 cattle cycles. The inventory of cattle and calves during the 1990-2004 cattle cycle shows a more gradual increase and decrease than the previous four cattle cycles. However, the response of cattle market prices to these moderate changes in cattle inventory were very significant resulting in about a 40-50 percent price decline from the cycle's highest prices.



## ALABAMA SEASONAL CATTLE PRICE TRENDS

It is important for Alabama cattle producers to become familiar with the price trends of Alabama feeder cattle in order to improve market prices received and identify profit opportunities. Why do beef prices vary so much over time for a given class of cattle? Market prices vary from week to week, month to month, and year to year due to changes in the supply and demand for cattle, as shown in Figure 4 (Feeder Steers, 400-500 pounds, Medium and Large, Number #1, 1995-2004, Alabama). The price variability in Figure 4 reflects changing beef supply and demand conditions (due to changes in cattle inventory, per capita beef consumption, exports, cost of production, weather, etc.). However, it is difficult to identify price trends by looking at Figure 4. Although monthly beef market prices vary from month to month and year to year, beef market prices do tend to develop a seasonal price pattern over a number of years.

By averaging cattle market prices we can develop a price index that describes the seasonal trends, as shown in Figure 5. The base index of 1.00 represents the 10-year average market price. The seasonal price index describes the average monthly trend and may be expressed as a percent of the 10-year average market price. For example, Figure 2 shows that market prices for 400-500 pound feeder steers during March in Alabama are four percent higher than the 10-year average price.

The price index for feeder steers in Figure 5 reveals that the monthly average market prices were greater than the 10-year average market price during January, February, March, April, and December and less than during May, June, July, August, September, October, and November. The highest price index was in March, while the lowest was in September. The price index during March was about 104 percent of the 10-year average market price, while for September it was about 97 percent. Thus, a 7 percent range was realized between the lowest (Sep.) and highest (Mar.) average monthly cattle price.

The price index shown in Figure 6 for feeder steers weighing 700-800 pounds shows two periods where monthly average market prices were above (Jun-Aug. and Dec.) and two periods below the 10-year average market price (Jan.-May and Sept.-Nov.). The highest price index was during December at about 103 percent of the 10-year market price average, while the lowest price index was realized during the month of April at about 98 percent.

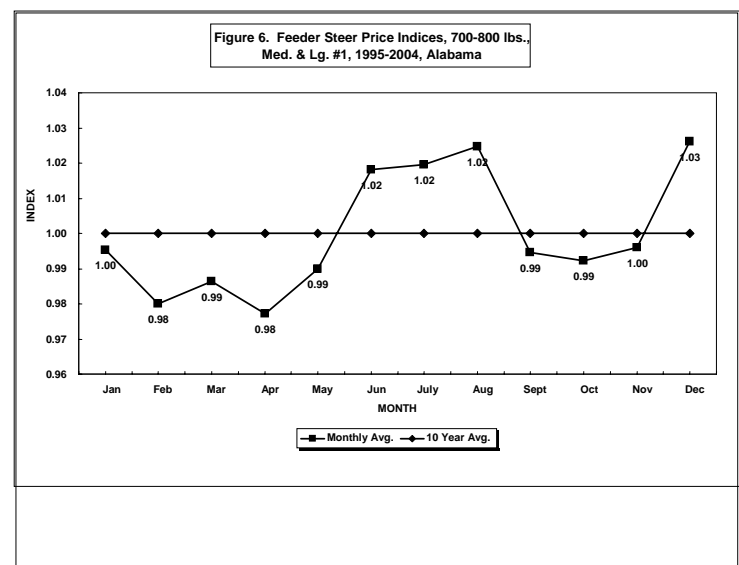
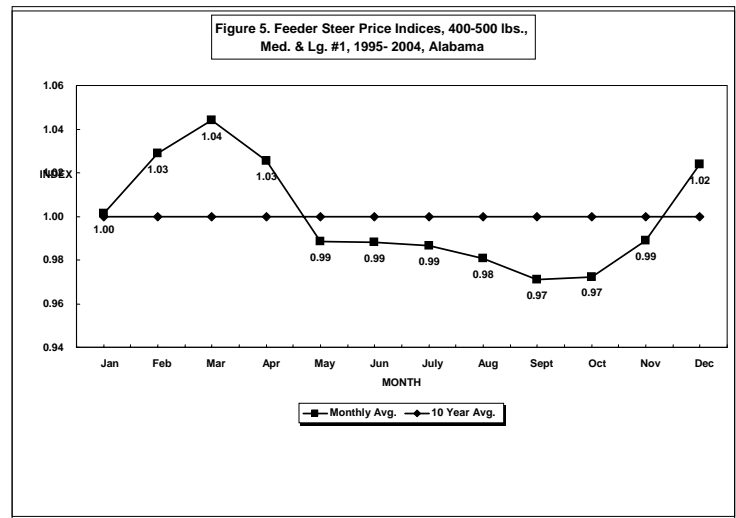
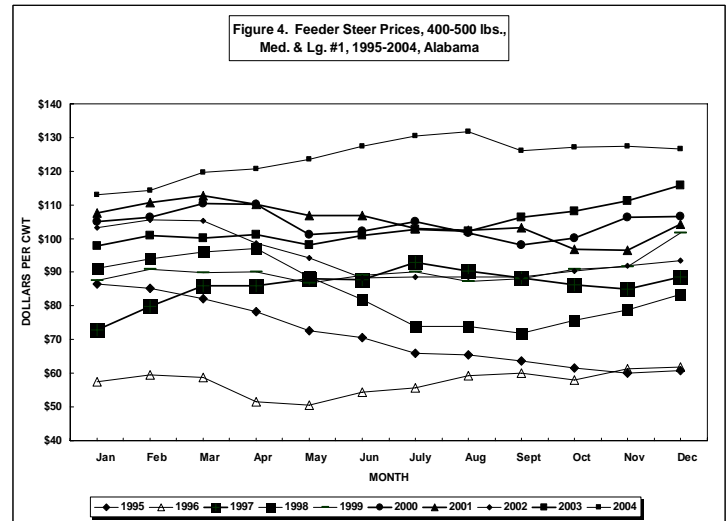
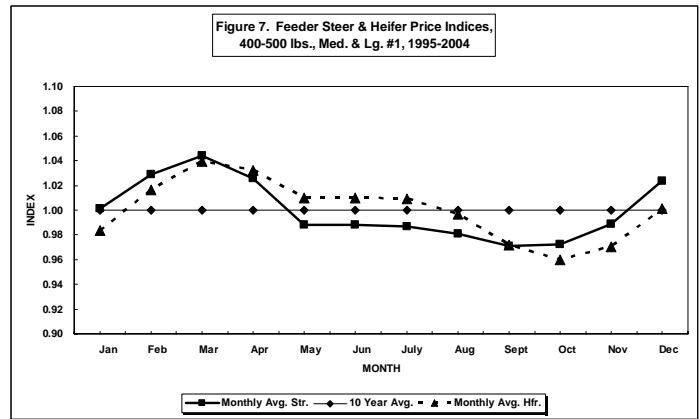


Figure 7 shows the price indices for feeder steers and heifers weighing 400-500 pounds. In this weight range, feeder heifers (dashed line) exhibited a similar price trend to that of the 400-500 pound feeder steers (dark line). As you would expect the cash market prices were higher for steers than heifers (see Appendix Tables 1 and 5), but the price index revealed that heifer prices were higher in relation to their 10-year average market price during the spring and summer possibly due to their expected enhanced breeding value in the near future (Apr.-Sep.).



Likewise, the seasonal price trend for feeder heifers 700-800 pounds (Figure 8, dashed line) is similar to the seasonal price trend of 700-800 pound feeder steers, except during January through April. The highest price index was in December for steers at 103 percent of the 10-year average market price. The highest price index for heifers was in February at about 101% of the 10 year average market price. The lowest price index were realized during the months of October for heifers at about 97 percent, while the lowest price index for steers occurred in April at about 97%.

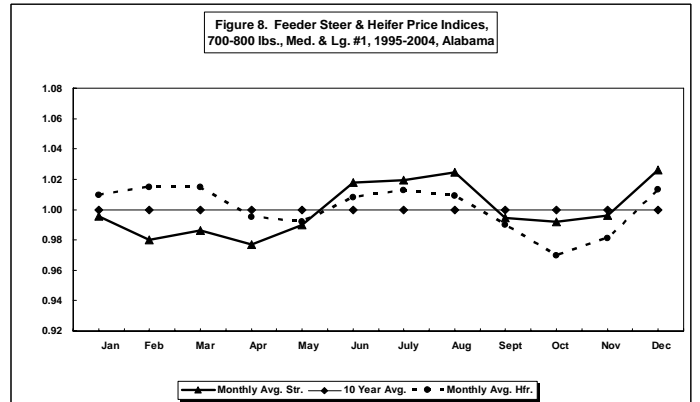
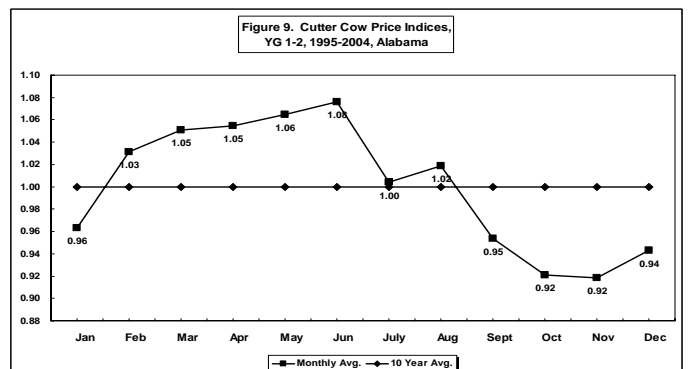
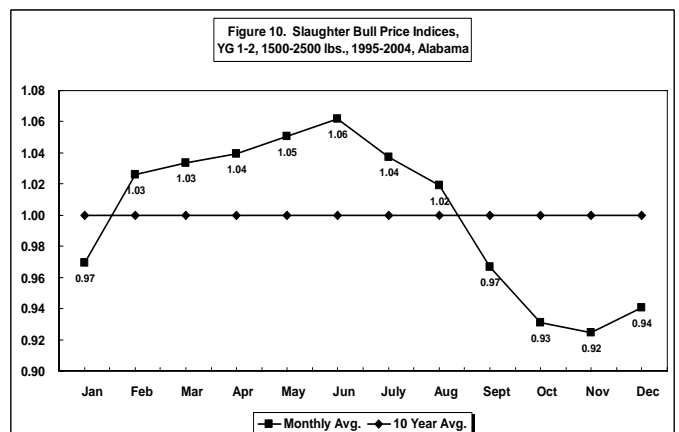


Figure 9 shows price indexes for cutter cows staying fairly steady at about 103-108 percent of the 10-year average market price from February through June, while during September through December they were about 92-95 percent. Cull cow marketing typically occurs during September through December, due primarily to two factors: 1) most calves are usually weaned at this time; and 2) many cow-calf producers do not want to incur the additional costs to winter cull cows. Clearly, any cull cow marketing between February and June results in a 7 to 16 percent advantage above the other average monthly market prices.



Slaughter bull prices (Figure 10, 1500-2500 lbs.) also showed the seasonal price decline from August through December. The highest price index occurred in the month of June (1.06), while the lowest price indexes were during October, November, and December (0.92-0.94). Marketing cull bulls between February and August would result in market prices from 5 to 14 percent greater than the other average monthly market prices.



## SUMMARY

Although beef market prices vary from week to week, month to month, and year to year due to changes in the supply and demand for cattle, beef market prices do tend to develop seasonal price patterns over time. These seasonal beef price trends coupled with information about the cattle cycle can be used by buyers and sellers alike to form market expectations about when to buy and sell beef cattle.

Understandably, to rely solely on seasonal beef price trend information in making decisions would not be advisable, but knowing and using cyclical and seasonal price information as a “management guide” should contribute to making better marketing decisions. In a world of decreasing profit margins, any information that can help managers become more informed will likely improve their chances of realizing a profit.

# APPENDIX

## SEASONAL CATTLE PRICE TREND DATA FOR ALABAMA<sup>1</sup>

<sup>1</sup>Average monthly market prices for various weights and grades of beef cattle as reported by Fed-State Market News from Alabama Auctions during 1995-2004 were used to compute the seasonal beef price trends for Alabama. These trends are shown in tabular and graphical formats. The tables report average market price and standard deviation by month and year for each class of cattle (Appendix Tables 1-14). Below each table is the price distribution for each class of cattle (Appendix Figures 1-14). In addition, Appendix Figures 15-28 show the price index and average monthly price received from 1995-2004. Appendix Figures 29 -38 provides additional beef cattle price and market information for Alabama. Data Source: USDA Agricultural Marketing Service, Fed-State Livestock Market News, P.O. Box 3336, Montgomery, Alabama 36109-0336. A special acknowledgment is extended to Mr. David Gonsoulin and the staff of the Fed-State Livestock Market News for providing the data used in this paper.