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Factors Affecting the Cattle Industry Outlook Situation

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When an economist discusses the outlook situation for any commodity, he usually makes extensive use of the terms "supply and demand." This is because in reality the law of supply and demand plays a major role in determining what will happen to that commodity. The cattle industry is no exception--the "law" still applies.

Historically, many of the demand and supply relationships which impact on the cattle industry in the United States and South Dakota have been rather easy to analyze. This is not true today--many of the old, simple relationships have become complex. The purpose of this paper will be to present some of the demand and supply relationships as they pertain to outlook.

Demand

There are two major factors which affect the demand for cattle and beef products: (1) population and (2) income. Each of these categories has sub-categories and, when individual products are considered, more factors can easily be added.

Population

Population increases normally have a positive impact on the demand for food items--the more mouths to feed, the greater demand for food. However, when discussing specific products such as beef, the relationship doesn't always hold. The world's population is at a record high level and is increasing rapidly in many areas. One estimate of the increase in the world's population is noted in Table 1, where an estimate of seven billion people by the year 2000 is noted.

Table 1. World Population Growth<sup>1</sup>

Year	Population (Billion)	Years required for each additional billion people
1 A.D.	0.25	
1800-1830	1.0	About 1800
1927	2.0	About 100
1960	3.0	33
1973	4.0	13
1984	5.0	11
1993	6.0	9
2000	7.0	7

<sup>1</sup>Eweil, R. Population Outlook in Developing Countries. Prog. 15th Agr. Res. Institute Meetings, Washington, D.C., October 10-11, 1965.

Even at a somewhat slower rate of increase, a great demand is being placed on food products. Often, the effective demand (both a willingness to eat and the ability to pay for the food) is not great enough to purchase protein in the form of livestock products. Population pressures may even reduce the demand for livestock protein and may draw certain protein foods (feed grains) away from the livestock industry.

Thus, population pressures, and the related demand for protein, could have different effects on the cattle industry of one country or state when compared to another country or state. Much depends on the next category--income, especially changes in income. One possible impact for the United States and South Dakota may be away from the long-term, heavy weight feeding programs to shorter feeding programs and toward those involving greater usage of grasses and roughages. Cattle and sheep are able to produce protein from those inputs which are not suitable for human consumption in their original state.

### Incomes

The demand for beef is such that as relative incomes increase, demand increases. Incomes have not increased at uniform rates throughout the world. Some areas have even experienced decreased incomes, especially decreased real incomes (after adjustment for price increases). Thus, the impact of income varies.

Specifically for the United States, incomes have increased more rapidly than food prices during the past 15 years. This is indicated in Figure 1, where the percentage of income spent on food has decreased from 20% in 1960 to 17% in 1974. Consumers have been able to upgrade their diets due to higher incomes while, at the same time, they spend a smaller share of their income on food.

Often, upgrading of diets means eating more livestock products, especially beef. Since 1955, both per capita expenditures for beef and per capita consumption have increased. However, the percent of income spent on beef has remained constant (Table 2).

Several other factors have an impact on the demand for beef. They are listed here with only brief discussion.

- (1) The export market--sales of livestock and livestock products, especially red meat, to other countries have not played a major role but have some potential.
- (2) Government--the increased use of transfer payments (such as welfare payments, food stamps, etc.) has increased incomes to many consumers. Also, government purchases for school lunch programs have an impact.
- (3) Grass fed or short-term fed beef--consumer acceptance of these products is not completely known, especially if they become a bigger share of the supply.

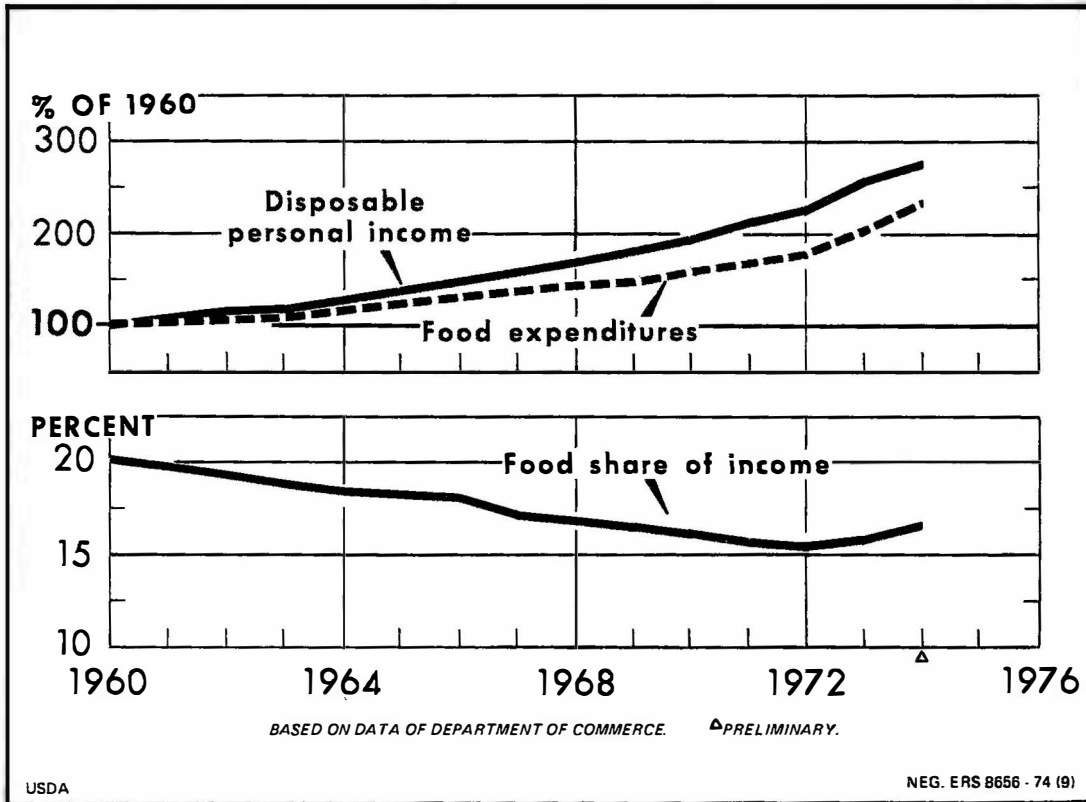


FIGURE 1

FOOD EXPENDITURES AND INCOME TRENDS, 1960-74

Table 2. Expenditures For and Consumption of Beef, Selected Years, United States

Year	Per capita expenditures (Dollars)	Percent of income (Percent)	Per capita consumption (Pounds)
1955	42.72	2.56	82.0
1960	50.51	2.61	85.1
1965	58.98	2.42	99.5
1970 <sup>1</sup>	82.96	2.46	113.7
1974 <sup>1</sup>	116.00	2.50	117.0

<sup>1</sup>Estimated.

### Summary on Demand

From the demand side, the picture for the United States is very complicated. A change in the factors indicated above could have an impact on the outlook for the industry. However, basic demand as derived from population and real income changes appears to have stabilized. Increases or decreases in demand, if they occur, are likely to be caused by new occurrences in the world market, the beef substitutes market (including nonmeat diets) and changes in government policies.

### Supply

The supply side has become as complicated as the demand side. The major areas of impact here are (1) numbers and production, (2) production techniques, and (3) market structure changes.

### Numbers and Production

Cattle numbers in the world and in the United States, are at record highs. However, inventories alone are misleading. First, the inventory is not uniformly distributed throughout the world, especially on a per person basis. Second, the make-up of the herd has changed, especially for the United States. Finally, beef production and cattle numbers are not the same thing.

An indication of the distribution of the world's cattle and the disparity between numbers and production can be seen in Table 3. Some countries, such as the United States, have a smaller share of the inventory than their share of production (approximately 10% versus 30%). Other countries, such as India with 18% of the inventory and virtually no production, have the opposite situation. The main impacts of the world inventory-production picture on the United States cattle industry are twofold. First, surplus countries attempt to export their beef to the United States, and, second, there is less demand for our surplus beef by countries which now have an adequate internal supply.

The United States inventory picture is summed up in Figure 2. The major change which has occurred here is the growth in the beef cow segment of the inventory. The inventory of the productive unit of the beef herd has grown more rapidly than has the demand for beef.

There also have been some changes in the type of feeding systems used, length of time on feed, slaughter weights, etc. Some of these aspects are discussed in the next section.

### Production Techniques

There have been several changes in production techniques used in the cattle industry during recent years. One of the major changes is the trend toward larger feedlots. Most of the increase in fed cattle marketings has been accounted for by feedlots with a capacity of 16,000 head or more (Figure 3). The larger feedlot operator views the cattle feeding enterprise differently than does the 50 to 500 head capacity feedlot operator. Differences include use of futures contracts, sources of grain and feeders (purchased versus raised), sources of capital, methods of marketing and many others. All have an impact on the industry.

Table 3. Cattle Numbers and Beef Production,  
Selected Areas, 1974 and 1975\*

Area <sup>1</sup>	Production <sup>2</sup>		Numbers <sup>3</sup>	
	Metric tons (000)	Percent of world production	Million head	Percent of world's numbers
North America (U.S.)	12745 (10658)	34 (30)	195.7 (131.8)	15 (10)
South America (Argentina) (Brazil)	5597 (2226) (2100)	15 (6) (6)	209.9 (58.0) (91.0)	16 (5) (8)
Europe (France)	9761 (1793)	26 (5)	134.6 (34.7)	10 (2)
USSR	5766	15	109.1	8
Africa (Ethiopia) (South Africa)	1022 (310) (473)	3 (1) (1.5)	157.5 (25.3) (12.6)	12 (2) (1)
Asia (India) (Japan)	691 (* ) (290)	2 (* ) (1)	491.0 (240.6) (3.5)	36 (18) (* )
Oceania (Australia)	1680 (1250)	5 (3)	44.9 (34.5)	3 (2)
Total	37261	100	1342.7	100

\*Source: USDA, Foreign Agricultural Service.

<sup>1</sup>Countries with largest population and/or inventories are noted in parenthesis under each major area.

<sup>2</sup>Preliminary 1974 production of beef and veal.

<sup>3</sup>Forecast January 1, 1975 inventory of cattle and buffalo.

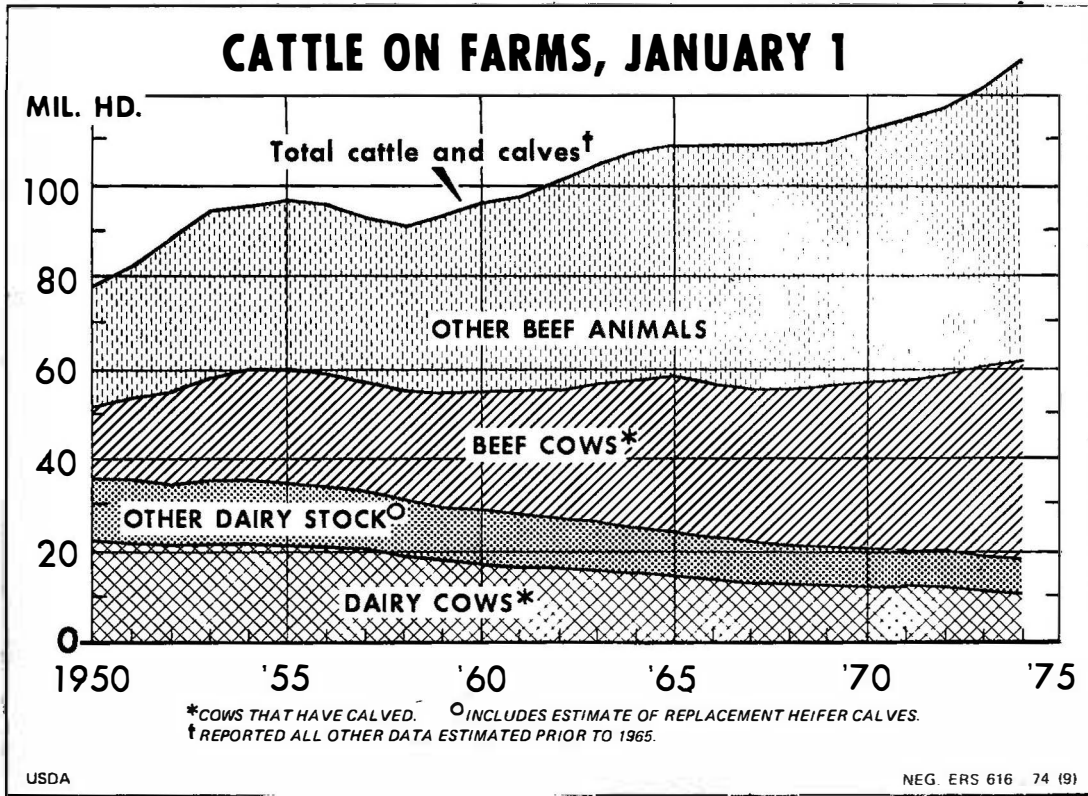


FIGURE 2

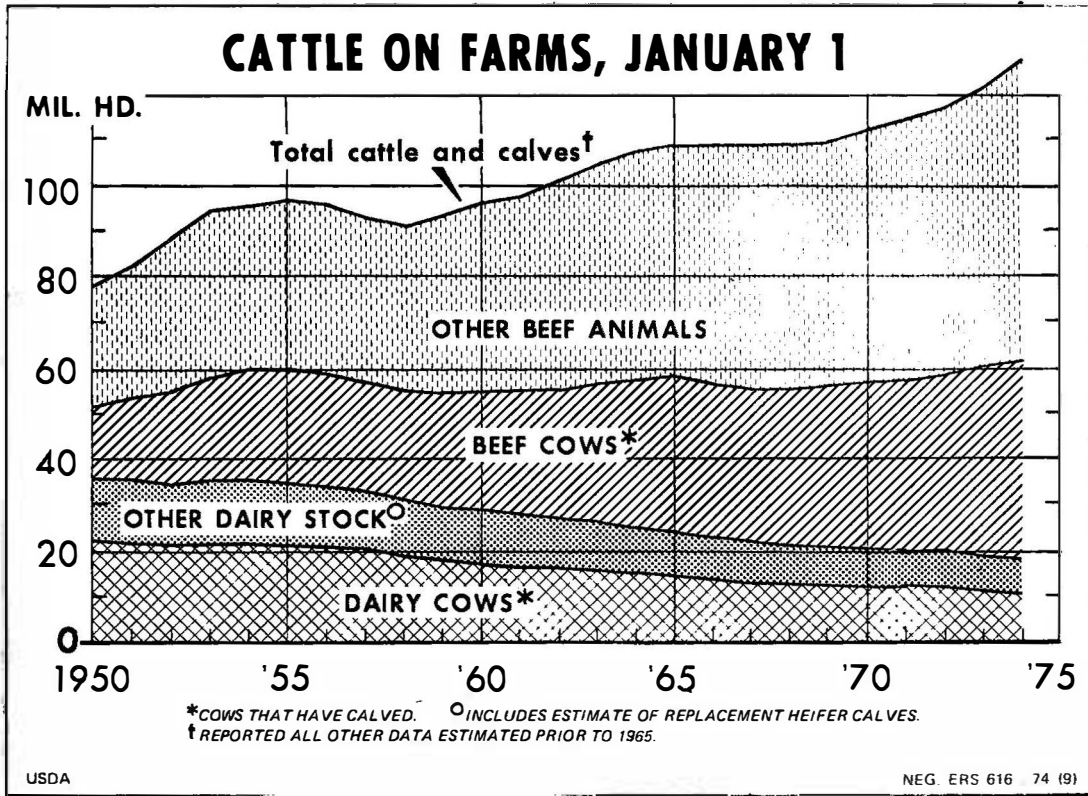
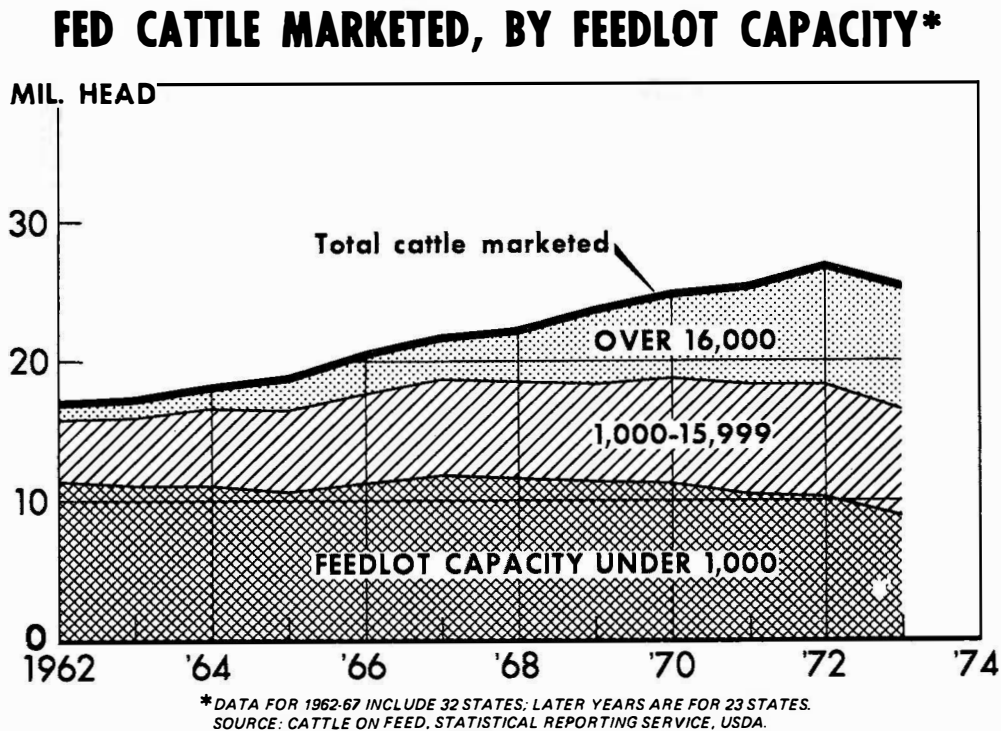


FIGURE 2





USDA

NEG. ERS 8871 - 74 (9)

FIGURE 3

Another major change, and one which is not completely reflected in the available data, is the trend toward greater usage of roughages. The data in Table 4 give an indication of the trend, especially the increase in number of animal units fed on roughages and the decrease in those fed on grain.

A third change is the reduction in slaughter weights during the past year. As noted in Figure 4, slaughter weights of cattle have declined almost 80 pounds per head during the past year. This may be due in part to the increase in roughage feeding and partially due to shorter feeding periods. High grain prices are a major factor.

Table 4. Animal Units of Livestock Fed Annually,  
1969-73, 48 States<sup>1</sup>

Year beginning October 1	Grain consuming 1,000 units	Roughage consuming 1,000 units	Grain and roughage consuming 1,000 units
1969	78,459	87,964	83,775
1970	79,991	89,875	85,630
1971	80,070	90,523	86,130
1972	79,225	92,543	87,029
1973	78,300	98,642	90,441
1974 <sup>2</sup>	67,547	104,178	89,698

<sup>1</sup>Data not available for Alaska and Hawaii. Calculations for feeding years 1969 to date, cattle numbers used are the new categories shown in the Livestock and Poultry Inventory, SRS, USDA.

<sup>2</sup>Estimated.

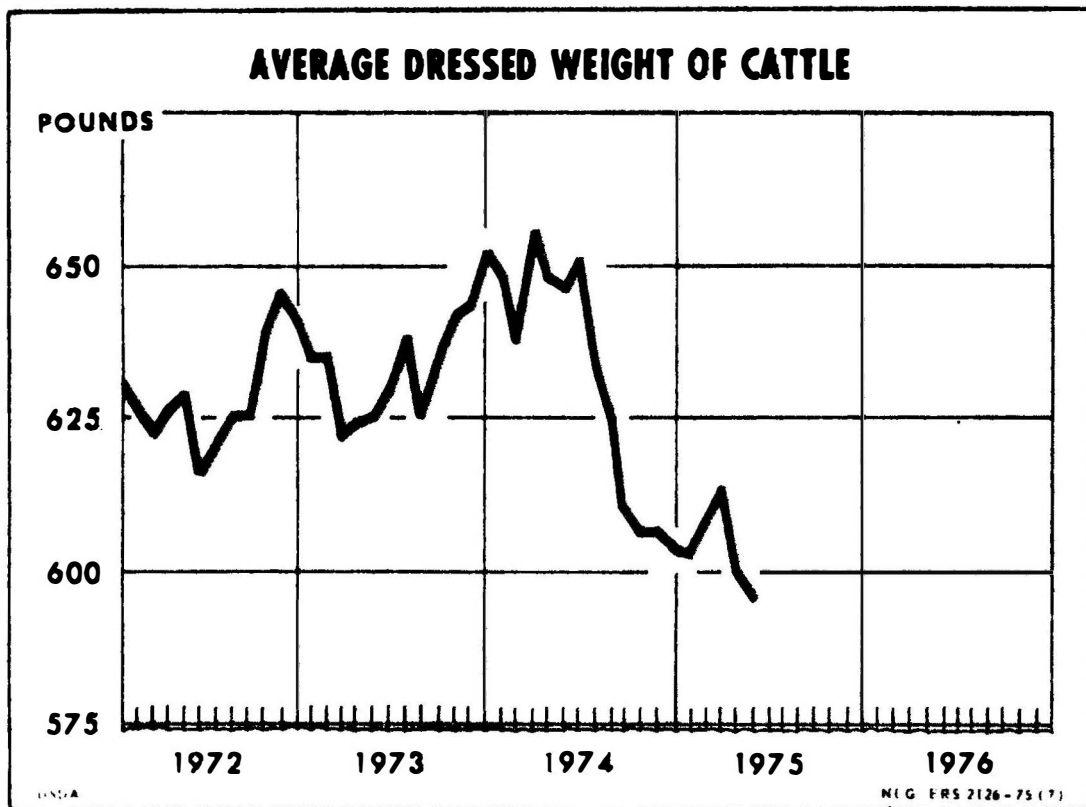


FIGURE 4

Finally, there has been an increase in cow slaughter. This is shown in Figure 5. The impact here is a lower price for cows and other beef now but probably a higher price in one or two years as fewer cattle are produced.

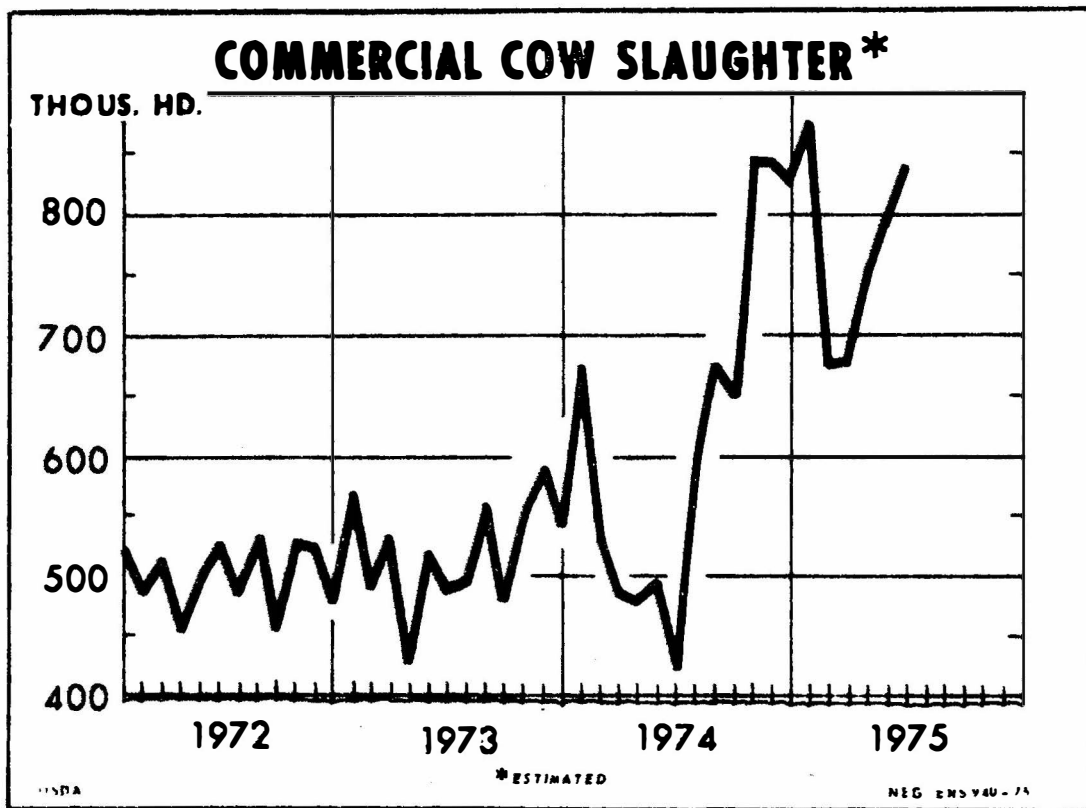


FIGURE 5

Outlook

After discussing changes which have occurred in the supply and demand sides of the cattle industry, it might be wise not to talk about outlook. The changes which have occurred make it very difficult to predict what will happen.

Some estimates can be made. First, if corn prices remain high (\$2.50 per bushel or more), and it appears that they will, the price pattern which developed in mid-1974 will continue. At that time fed steer prices moved above feeder steer prices. Currently, a \$10.00 or more difference is noted (Figure 6). This difference is greater when comparing fed cattle prices to light feeder cattle prices than when looking at heavier feeder cattle prices.

A second outlook statement which is somewhat certain is that prices for slaughter cows will be depressed. Cow slaughter is expected to remain high and this will hold slaughter cow prices down. The added supply of beef from slaughter cows will have a dampening impact on fed beef prices.

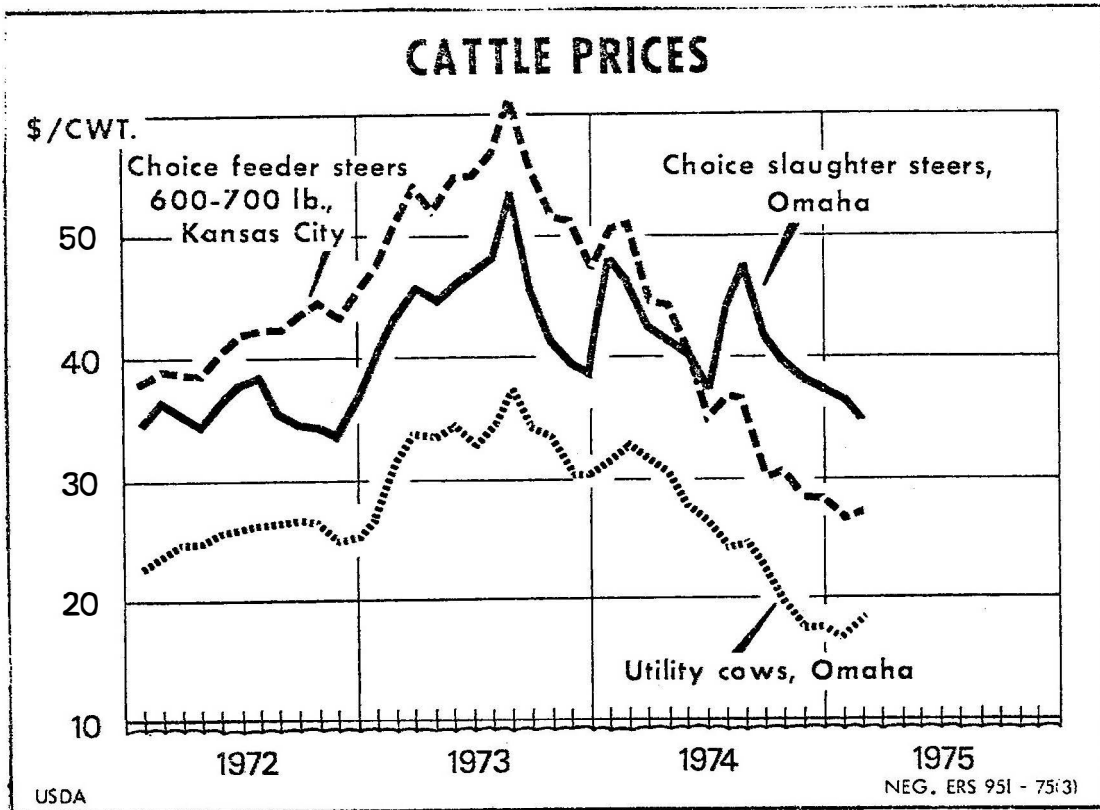


FIGURE 6

Finally, the general cattle price outlook is not particularly encouraging for the next six to twelve months. The demand picture is more one of maintenance of the current demand and not increasing demand, either total or per capita. The supply side has the encouraging aspects of fewer cattle on feed (grain) and lower slaughter weights and the price depressing aspects of more cattle fed on roughages, greater cow slaughter and larger numbers. The net effect here will probably be one of slightly lower prices.

The net effect of the above will probably mean fed steers in the mid-\$40 range, feeder cattle in the mid-\$30 range and slaughter cow prices in the low to mid-\$20 range. It should be remembered, however, that the cattle industry is very complex. Changes in any number of factors, such as grain prices, consumer incomes or government activity, can cause major changes in the picture.