During the summer months of 1973, the U.S. consumer observed shortages of some favorite cuts of meat, and saw prices soar to the highest levels recorded. In an attempt to assure their family a supply of meat, many consumers bought home freezers, causing a temporary shortage of this household appliance. This, at least in part, reflected a growing assumption by many consumers that life without their customary meat supplies would be unbearable.

Consumer clamor over high meat prices resulted in government price ceilings in March. Controls were maintained on pork and poultry until July, and on beef until early September. Since prices paid by meat producers, especially for feed, were not controlled, costs rose and producers responded by cutting production and or limiting marketings. These actions helped to precipitate the relative shortage in meat counters in July and August.

The question often raised is, how did the U.S. get into the above situation, and what lies in store for the future. Few people realize the dynamic changes which have occurred, especially in the beef industry over the past 25 years. Beef and veal consumption per capita rose from 71.4 pounds per capita in 1950 to 118 pounds in 1972 (Figure 2). This increased demand plus population growth resulted in an increase in total consumption of beef and veal in the U.S. from 11 billion pounds in 1950 to 24.1 billion in 1972.

This strong growth in demand has been accompanied by increased demand for higher quality and more services. Consumers want a minimum of excess fat, a high degree of marbling or fat distribution and a high level of consistency in tenderness and flavor. In order to satisfy these demands producers have shifted to highly controlled and standardized feeding programs. Between 1961 and 1971, the percentage of beef produced and classified as U.S. Choice rose from 45 to 59. Retailers have shifted to pre-packaged meat, with excess fat largely trimmed off.

While demand for both product and service has grown at a relatively fast rate, prices rose relatively slowly until 1971. The average retail carcass price for choice beef was 74.6 cents per pound in 1950 and had risen to 98.6 cents in 1970 (Figure 3). In 1972 the average price was 113.8 cents. By August 1973 it had risen to 144.2 cents. Much of the change up to 1970 was associated with rising costs of marketing and processing services.

While cattle numbers have continued to increase gradually, thus providing more beef, much of the growth in output since 1950 has come from changing management and production practices. Shifts have been made from grass fat animals to concentrated feeding in feedlots. Fed cattle marketings in 1960 were 12.8 million head, whereas by 1973 they were 26.7 million. Veal production in 1972 was less than one third of 1950. Calves formerly slaughtered at light weights for veal are now fed out.

Improved breeding and management has resulted in more calves and more meat per animal. The calf crop saved has increased by about 10 percent since 1950. Increased efficiency in feeding has reduced the amount of feed required per pound of gain and the time needed to obtain the gain. The use of standardized well balanced rations plus anti-biotic and hormone injections have improved the rates of gain and efficiency of gain. Improved carcass formation has provided more lean meat and of higher quality.

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Figure 2. Per Capita Consumption of Red Meats, United States, 1950-72.

The change to concentrated feeding has caused other significant industry shifts. For climatic and other reasons, feeding has moved to the Western States. Arizona, New Mexico, Texas, Oklahoma, Nebraska, Kansas and Colorado increased marketings from feedlots from 5 million head in 1962 to nearly 15 million in 1972. Texas and Colorado have been major growth states.

As feeding has shifted so has marketing and slaughtering. Packing plants have moved to the major feeding centers and marketing has become a direct bargaining process between packers and their agents and feedlot operators. Major markets such as Chicago and Portland have ceased operation. Slaughter in Northern and Southern Plains and the Rocky Mountain States has more than doubled from 7.3 billion pounds in 1962 to 16 billion in 1972.

While feeding has increased, numbers of feedlots have declined and grown larger in size. In 1970 there were 176,817 feedlots whereas by 1972 they were down to 154,536. One third of the cattle were fed in 184 lots with over 16,000 head capacity. In Arizona there were 189 lots in 1961 and only 53 in 1972. Nine of those had a capacity exceeding 32,000 head. Over 80 percent of Arizona's 900,000 fat cattle were marketed from 21 lots. In Colorado a single firm has two lots with over 100,000 head capacity each. A new lot is being constructed with 150,000 head capacity.

These large feedlots require substantial capital and have forced changes in systems of finance. A new lot with 20,000 head capacity will have close to $1.5 million in plant and equipment. The average investment in feeders and feed will approximate $7 million. Most feedlot owners have shifted to custom feeding. Banks and other lending institutions put up 70 to 75 percent of the investment in animals and feed for individuals able to establish credit. Interested investors then put cattle on feed with the feedlot owner charging for the feeding service. This system has greatly diversified investments in feeding and permitted growth in firms and in the industry.

This growth and changes in the industry have not occurred without problems. The large lots result in odor, dust, waste discharge and other environmental issues. Some firms have been forced to relocate. Others may be forced to move or incur substantial costs if new more restrictive environmental guidelines on waste and effluent disposal are invoked. Research is being done on recycling and new product uses for wastes but to date
no successful economic process has been developed. There have been health issues as well. The recent ban on DBS has slowed production and reduced efficiency of gain. Possible limits on antibiotics could further reduce production rates and add to costs.

These limitations occurred at a time when meat supplies in total were relatively short. The effects of increasing the size of the basic U.S. beef herd during the last two or three years has not yet been felt in the market. Pork and poultry were in the low phase of their production cycle due to low prices in 1971 and 1972. The climate in many feeding areas in early 1973 was unfavorable and slowed livestock growth. Additionally, grain supplies were relatively short due to worldwide grain shortage in late 1972 and early 1973. All of these factors, combined with the growing demand in the U.S. and abroad for red meats, created the crises in U.S. meat markets in 1973.

This situation is showing signs of substantial improvement. World grain supplies are expected to be up significantly with the 1973 harvest. Some significant price drops have already occurred in crops like soybeans. Higher prices have stimulated poultry and pork producers to expand output, and the increased calf crop from the expansion in the beef herd in recent years is beginning to show up in the market. Expectations are that 1974 and 1975 meat supplies will be in better balance with demand. Prices to producers dropped significantly in October 1973 and are beginning to show up in some reductions at the meat counter.

Another factor will be in the production of meat analogs from protein substitutes such as soybean and cottonseed. Some use of these products has already been introduced. It is expected more will come as research and promotion efforts have been intensified as red meat prices have risen. Recent developments in research on cottonseed indicate a major breakthrough may have been made and that if problems are overcome, protein from this source can be obtained for substantially less than the cost of meat.

In order to remain competitive the livestock industry will have to continue to strive for greater efficiency to hold down costs. Additionally new less costly methods of handling and distribution such as centralized cutting and wrapping, quick freezing and other systems will have to be tried.

Figure 3. Average Retail Price per Pound for Beef and Pork, United States, Annually 1950-1970, Monthly 1971-1973.