



Structural Changes in Cattle Feeding and Meat Packing

Clement E. Ward
Oklahoma State University

Ted C. Schroeder
Kansas State University

Oklahoma Cooperative Extension Fact Sheets
are also available on our website at:
<http://osufacts.okstate.edu>

Cattle feedlots and meatpacking plants have declined in number and increased in size. Concentration, the measure of the market dominance by a few large firms, has increased at a much more rapid pace in meatpacking than in cattle feeding. As a result, concentration in meatpacking has been a major concern to cattlemen and others in recent years. To some, it has been a concern for more than 25 years.

Market structure typically refers to the number, size, and location of firms in an industry. Major changes in the structure of cattle feeding and beefpacking have occurred the past couple decades. This fact sheet reviews many of these changes and discusses implications for marketing and pricing feeder and fed cattle.

Changes in Cattle Feeding

Cattle feeding has become more highly concentrated in larger feedlots, fewer firms, and in a few states. One result of these changes is that data are no longer collected by the U.S. Department of Agriculture (USDA) on a regular basis from feedlots with less than a 1,000 head one-time capacity.

In 1972, 104,340 feedlots in 13 states marketed 23.9 million cattle (National Agricultural Statistics Service). By 1995 in the same 13 states, 41,365 feedlots marketed 23.4 million cattle. Fed cattle marketings were at about the same level, but the number of feedlots declined over the period by 60.4%. Average marketings per feedlot were 2,287 head in 1972, but increased to 5,648 head by 1995.

The above suggests that feedlots today are larger on average than feedlots 25 years ago. Most of the feedlots that exited the industry over the past 25 years were smaller feedlots. In 1972, 98.2% of the feedlots had a one-time capacity of 1,000 head or less, while the comparable percentage for 1995 was 95.3%. That alone suggests average marketings per feedlot increased.

Remaining feedlots also increased in size. In 1972, 1.8% of the feedlots (with a one-time capacity greater than 1,000 head) marketed 65.2% of the cattle. Those larger feedlots in 1995 marketed 90.2% of the cattle. Average marketings for the 1,936 larger feedlots in 1995 were 10,897 cattle per feedlot; while for the 39,429 smaller feedlots, average marketings were 58 cattle per feedlot.

Cattle feeding is more geographically concentrated today than 25 years ago. In 1972, Texas was the leading cattle feeding state, followed by (in order) Iowa, Nebraska, Kansas, and Colorado. In 1998, the largest cattle feeding states were Texas, Kansas, Nebraska, Colorado, and Oklahoma (Figure 1). The five states in 1998 combined for 86.5% of fed cattle marketings in the 12 leading states. Since 1972, there has been a sharp decline in cattle feeding among some of the leading states (for example,

Iowa and California) and a rapid increase in other states (such as Kansas and Texas).

Average marketings per feedlot for each state illustrate where the larger cattle feedlots are located and the differences in feedlot size from state to state (Figure 2). Arizona had only 10 cattle feedlots in 1995, but each was quite large, marketing an average of 38,000 cattle per feedlot. Iowa was on the opposite end of the spectrum. Iowa had the most feedlots of any state in 1995, 14,500, but each was relatively small, marketing only 102 cattle per feedlot on average.

While cattle feeding has become more concentrated in larger feedlots and in a smaller geographic region, it also has become more concentrated in larger cattle feeding firms. Table 1 lists the 10 largest cattle feeding firms according to industry sources (Kay). These firms own 53 feedlots with a total one-time capacity of 2.9 million cattle, or an average capacity of 54,075 per feedlot. Marketings by these 10 firms approach 6 million cattle annually.

The importance of the larger feedlots has increased over time. Total number of feedlots with a one-time capacity of 1,000 head or more has increased slightly over the past 15 years, going from about 1,600 in 1985 to about 1,800 in 1999. However, there have been significant changes within this group. Figure 3 shows the growth in marketings from feedlots with a one-time capacity of 16,000 head or more, and a slight decline in marketings from feedlots with capacity of 1,000 to 15,999 head.

Cattle feeding firms have increased in size to capitalize on economies of size. However, no research is available to estimate the extent or limit of those cost economies. Economies may be present in terms of purchasing feeder cattle and grain, utilizing labor, feed processing, and marketing fed cattle. Larger firms have

Table 1. Largest Cattle Feeding Firms, 1999.

Rank	Firm	Number of Lots	One-Time Capacity (1,000 hd)
1	Cactus Feeders, Inc.	9	460,000
2	ContiGroup Cattle Feeding Div.	6	425,000
3	ConAgra cattle Feding Co.	4	345,000
4	Caprock Industries	4	285,000
5	National Farms, Inc.	7	274,000
6	J.R. Simplot Co.	3	260,000
7	Cattleco/Liberal Feeders	5	235,000
8	Friona Industries, L.P.	5	230,000
9	Agri-Beef Co.	6	180,000
10	AzTx Cattle Co.	4	172,000



Figure 1. Leading Cattle Feeding States, 1998.
 1,000 Head
 12 State Total = 21.947 Million head



Figure 2. Average Number of Cattle Marketed per Feedlot, 1995.

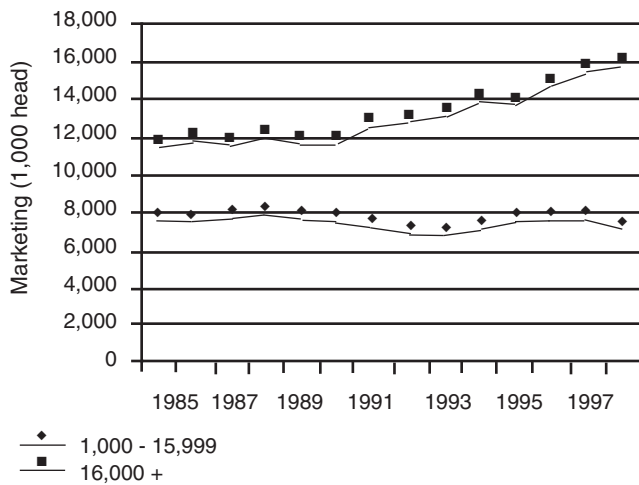


Figure 3. Marketings from Larger Feedlots by Size Group.

also increased in size to place themselves in a better bargaining position in price negotiations with fed cattle buyers.

Concentration is an often-mentioned concept regarding beefpacking. Concentration is defined as a measure of the market dominance by a few large firms and is intended to be an indicator of when an industry might experience poor economic performance (such as artificially low input prices or artificially high output prices or excessive profits). While concentration in cattle feeding has not been much of an issue because it is small in comparison with beefpacking, some in the cattle industry question the desirability of the trend towards large cattle feeding firms and exodus of smaller cattle feeding operations.

Changes in Meatpacking

Meatpacking plants and firms have also become fewer in number but larger in size. In addition, steer and heifer slaughtering has become more geographically concentrated, closer to where cattle are fed.

In 1972, 807 steer and heifer slaughtering plants (called fed cattle slaughtering plants here) slaughtered 26.1 million cattle (Packers and Stockyards Administration). In 1998, 168 plants slaughtered 27.4 million fed cattle (Grain Inspection, Packers and Stockyards Administration). Average slaughter per plant increased from 32,383 head in 1972 to 163,071 head in 1998.

Smaller plants have exited the industry, while remaining plants have increased in size. Plants that slaughtered less than 50,000 fed cattle annually represented 82.5% of total plants for 1972. Plants that slaughtered less than 250,000 fed cattle in 1998 represented nearly the same percentage of total plants, 83.3%. However, the market share of smaller plants decreased sharply. In 1972, the smaller plants (less than 50,000 head annual slaughter) accounted for 20.7% of total fed cattle slaughter. By 1998, the plants in a larger size group (less than 250,000 head annual slaughter) represented a smaller percentage of total fed cattle slaughter (7.4%).

The same trend can be shown by focusing on the largest plants. In 1976, five plants each slaughtered more than 500,000 fed cattle per year. In 1998, 20 plants slaughtered more than 500,000 cattle apiece, and 14 of those slaughtered more than one million head. Combined, the 20 plants accounted for 80.6% of fed cattle slaughter. Average slaughter in those 20 largest plants in 1998 was 1,105,350 cattle. The driving force for the trend toward larger plants is cost efficiency, capitalizing on economies of large size.

Fed cattle slaughtering has become more concentrated in a few states. The leading fed cattle slaughtering states in 1972 were (in order) Nebraska, Iowa, Texas, California, and Kansas. In 1994, the leading states were (in order) Kansas, Nebraska, Texas, Colorado, and Iowa (Figure 4). In some states, there is essentially only one large plant (Figure 5). Therefore, the "state" market share of slaughter by one or a small number of plants in some states is very high. However, the state market share can be misleading. Fed cattle may be purchased from surrounding states as well. Research indicated 64% of fed cattle purchases were from within 75 miles of the plant; 82% from within 150 miles; and 92% from within 250 miles (Grain Inspection, Packers and Stockyards Administration). Research also found that procurement prices among plants were closely interrelated. Therefore, competition among plants generally keeps prices from deviating far from the cost differential to transport cattle longer distances.

Fed cattle slaughter in some states (for example, Iowa and California) has declined sharply since 1972, and increased rapidly in others (such as Kansas and Texas). Note the states with the largest changes (decreases and increases) in cattle slaughtering are the same as for cattle feeding.

Fed cattle slaughter has become more concentrated in just a few firms. Table 2 shows the ten largest beefpacking firms according to industry sources (Kay). These firms account for over 90% of all steer and heifer slaughter in the U.S. They operate all of the 20 largest slaughtering plants that were discussed earlier. Together, they operate 38 plants that slaughter steers and heifers with a combined daily capacity of 110,000 head.

Implications for Pricing and Competition

The trend toward fewer and larger feedlots and beefpacking plants, fewer and larger cattle feeding and meatpacking firms, and concentration in a smaller geographic region is clear. The implications are not as clear.

Fewer and larger cattle feedlot firms and meatpacking firms mean fewer potential buyers bidding on feeder and fed cattle. On the surface, this gives the appearance of reduced competition. However, these larger firms are more efficient. Thus, there exists a tradeoff between being cost-efficient and being able to pay higher prices; versus having fewer competitors and not needing to pay higher prices. This tradeoff represents a key issue for many cattlemen. Which is better, fewer and more cost-efficient plants or more but less cost-efficient plants?

Two closely related issues regarding fed cattle pricing are meatpacking concentration and captive supplies. Research has addressed both of these issues for fed cattle (see WF-554, Packer Concentration and Captive Supplies). However, little or no research is available to measure the impacts on feeder cattle prices from the trend toward larger cattle feedlots.

Table 2. Largest Beefpacking Firms, 1999.

Rank	Firm	Number of Plants	Capacity (head/day)
1	IBP, Inc.	13	38,800
2	ConAgra Beef Company	7	23,000
3	Excel Corporation	5	22,500
4	Farmland National Beef Packing Co.	2	9,000
5	Packerland Packing Company	4	6,100
6	Nebraska Beef Inc.	1	2,500
7	Rosen's Diversified, Inc.	3	1,950
8	Greater Omaha Packing Co., Inc.	1	1,925
9	Moyer Pcking Company	1	1,900
10	Taylor Packing Co., Inc.	1	1,900



Figure 4. Leading Fed Cattle Slaughtering States, 1994.
 1,000 Head
 U.S. Total - 27.041 Million head
 * Estimates

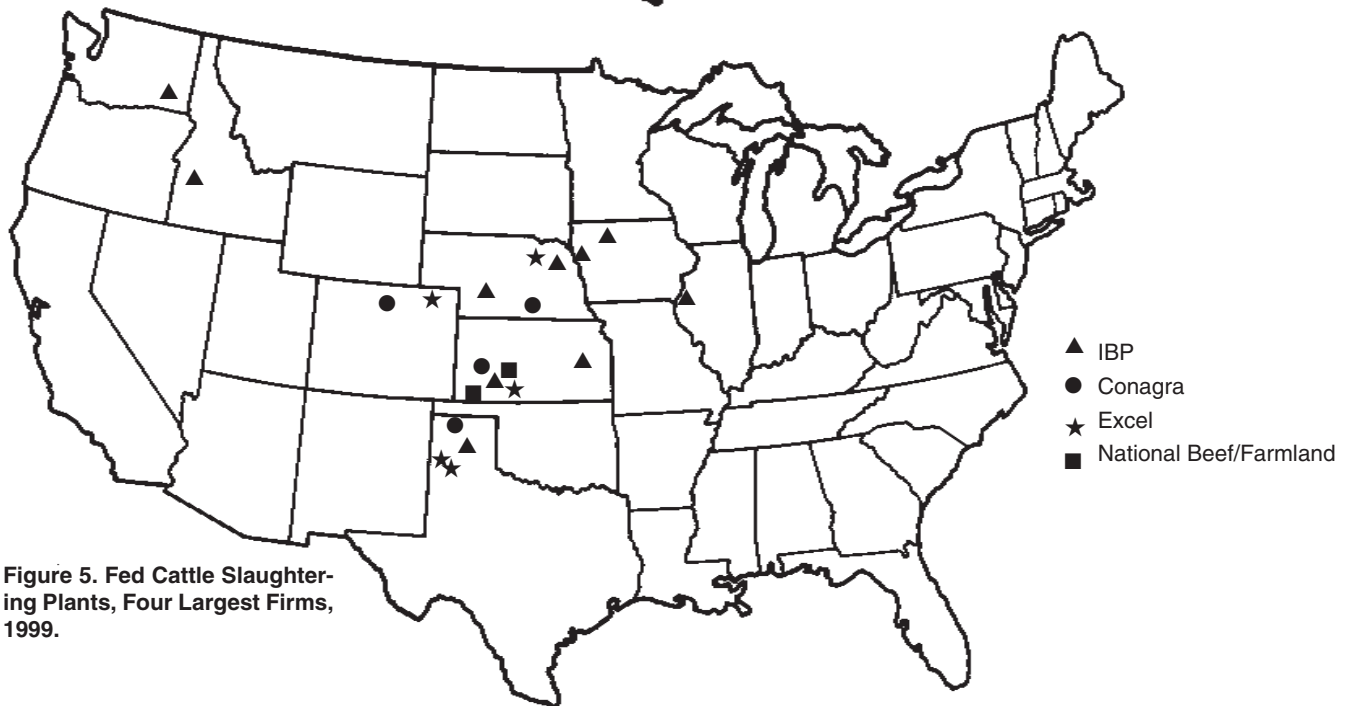


Figure 5. Fed Cattle Slaughtering Plants, Four Largest Firms, 1999.

References

Grain Inspection, Packers and Stockyards Administration. Concentration in the Red Meat Packing Industry. U.S. Department of Agriculture, Washington, D.C. 1996.

Grain Inspection, Packers and Stockyards Administration. Packers and Stockyards Statistical Report. U.S. Department of Agriculture, Washington, D.C., Selected years.

Key, Steve. Cattle Buyers Weekly. Petaluma, CA, Selected issues, 1999.

National Agricultural Statistics Service. Cattle on Feed. U.S. Department of Agriculture, Washington, D.C., Selected issues and years.

Oklahoma State University, in compliance with Title VI and VII of the Civil Rights Act of 1964, Executive Order 11246 as amended, Title IX of the Education Amendments of 1972, Americans with Disabilities Act of 1990, and other federal laws and regulations, does not discriminate on the basis of race, color, national origin, gender, age, religion, disability, or status as a veteran in any of its policies, practices, or procedures. This includes but is not limited to admissions, employment, financial aid, and educational services.

Issued in furtherance of Cooperative Extension work, acts of May 8 and June 30, 1914, in cooperation with the U.S. Department of Agriculture, Robert E. Whitson, Director of Cooperative Extension Service, Oklahoma State University, Stillwater, Oklahoma. This publication is printed and issued by Oklahoma State University as authorized by the Vice President, Dean, and Director of the Division of Agricultural Sciences and Natural Resources and has been prepared and distributed at a cost of 20 cents per copy. 0304