12-2-1994

Structural Changes in Cattle Feeding: S.D. Versus Neighboring Major Cattle Feeding States; Livestock Outlook

Donald C. Taylor
South Dakota State University

Gene Murra
South Dakota State University

ECONOMICS COMMENTATOR

SOUTH DAKOTA STATE UNIVERSITY
No. 343 December 2, 1994

STRUCTURAL CHANGES IN CATTLE FEEDING: S.D. VERSUS NEIGHBORING MAJOR CATTLE FEEDING STATES

Donald C. Taylor
Agricultural Economist

South Dakota is one of the 13 major cattle producing states in the U.S. Each year the state ranks 8th-10th nationally in total number of fed cattle marketed.

During the past two decades, South Dakota's fed cattle industry has undergone some rather major structural changes. The changes involve fewer fed cattle being marketed in 1993 than in 1983 (27% fewer) and in 1973 (13% fewer), a major reduction in the number of cattle fed in feedlots with under a 1,000 head capacity, a doubling in the average size of feedlot, and a strong sustained growth in the numbers of fed cattle marketed from feedlots with a capacity of 1,000-4,000 head.

In the three Midwest-heartland states of Iowa, Minnesota, and Illinois, on the other hand, fed cattle marketings have decreased since 1973 by 54%, and the average size of feedlot has decreased by 2-18%.

During the past two decades in the three largest cattle producing states in the nation (Texas, Nebraska, and Kansas), total fed cattle marketings collectively have increased by over 35%, and fed cattle marketings from mega-feedlots (feedlots with > 32,000 head capacity) have increased by over 70%. While Kansas has shown the greatest relative increase in total marketings from mega-feedlots, Texas continues to rank number one nationally in total fed cattle marketed and in cattle fed in mega-feedlots. The average size of feedlot in these three states in 1993 was 2.9-4.5 times greater than in 1973.

Thus, the pattern of structural change in the fed cattle industry in South Dakota is far different from that in either the three major cattle producing states in the Midwest-heartland or in the major cattle feeding states in the Central and Southern Plains. The average

(Continued on page 2)

LIVESTOCK OUTLOOK

Gene Murra
Extension Livestock Marketing Specialist

It may be awhile before producers can talk about $75 fed cattle, $100 feeder cattle or $45 slaughter hogs. Therefore, anyone using those price levels for planning purposes probably will be disappointed.

On the hog side, virtually everyone is aware of the big changes occurring in the industry. The entrance of large scale producers who often are vertically and horizontally integrated has changed (and is changing) the industry to one a whole lot more like the poultry industry than it used to be. Rather than separate firms involved in producing, processing and marketing pork, we now have many firms involved in two or more levels from production to consumption. In addition, the change has contributed to the recent large supplies of hogs and has helped force prices to the lows noted in the early 1980's (or under $30).

Partially because of the above changes (mainly expansion in pork production) and plenty of other meat, the price picture for 1995 looks worse than it was in 1994 (maybe $5-6 lower on average) and 1996 could be worse than 1995. Output at record levels likely will cause more "$30 something" hogs than $40 or above, and could even result in extended periods of prices under $30. Record production in 1993 will be broken in 1994 and that probably will be broken in 1995 and 1996. It should be noted here that in November and early December there are some indications of herd liquidation occurring. Whether that liquidation will be enough to keep 1995 production at or below 1994 is very questionable.

On the cattle side, a slow expansion in the nation's cow herd, caused mainly by positive returns to cow-calf producers (certainly not to feedlot operations), will create an "increasing supply" picture for another two or three years. While the big changes noted in the hog industry have not yet reached (and may not reach) the cattle industry, there are things happening which could affect the industry.

(Continued on page 4)

size of feedlots in the Midwest is decreasing, whereas in South Dakota it is increasing. In the big-three cattle producing states, average feedlot sizes are many-fold (7 to 68 times) that in South Dakota. Further, growth in fed cattle marketings from mega-feedlots in these and the other six major cattle feeding states over the past two decades has been striking.

As public concerns with environmental pollution continue to grow across our nation, it is critical to realize the major comparative advantage--relative to possible soil and water pollution from animal wastes--that arises from the unique pattern of moderately-sized, relatively widely-dispersed feedlots in South Dakota.

In the remainder of this newsletter, data underlying the above conclusions are presented and briefly discussed.

Data source

Each quarter, the USDA reports on cattle feeding in the U.S.'s 13 major cattle producing states. These data are taken into account in reports by the Livestock Marketing Information Center (LMIC) in Denver, Colorado. [LMIC was earlier known as the Western Livestock Marketing Information Project.] The findings reported in this newsletter are based on LMIC's fed cattle marketing data between 1973 and 1993 for the nation's major cattle feeding states.

South Dakota

During the past two decades, the total number of fed cattle marketed from feedlots in South Dakota increased from 559 thousand in 1973 to a peak of 665 thousand in 1983. It has since declined to 485 thousand in 1993 (Table 1).

Between 1973 and 1993, the number of feedlots in South Dakota dropped by well over one-half--from 9,200 to 4,000. The average size of feedlot (defined in terms of the number of fed cattle marketed per year), on the other hand, doubled from 61 head to 121 head (Table 2).

The number of fed cattle marketed from feedlots with under a 1,000 head capacity grew 19% from 376 thousand in 1973 to 466 thousand in 1981 (Figure 1). By 1993, however, the number of fed cattle marketed from feedlots with under a 1,000 head capacity (120 thousand) had dropped to only about one-fourth of the number in 1981. The main reason for this striking decrease was closure of small feedlots.

Table 1. Changes in total number of fed cattle marketed, 13 major cattle feeding states, 1973 to 1993.

Region/state	Number of fed cattle marketed/year ('000 head) 1973	1993	Change from 1973 to 1993 No. of head ('000)	Percent
South Dakota	559	485	- 74	- 13
Midwest-heartland states				
Iowa	3,389	1,445	- 1,944	- 57
Minnesota	875	485	- 390	- 45
Illinois	945	445	- 500	- 53
Sub-total	5,209	2,375	- 2,834	- 54
Nation's "big-three" fed cattle producers				
Texas	4,412	5,290	+ 878	+ 20
Nebraska	3,607	4,790	+ 1,183	+ 33
Kansas	2,500	4,160	+ 1,660	+ 66
Sub-total	10,519	14,240	+ 3,721	+ 35

The number of fed cattle marketed from feedlots with over a 4,000 head capacity has fluctuated a great deal from year to year over the past two decades. Numbers increased from 100 thousand in 1973 to a peak of 300 thousand in 1985. By 1993, however, they fell to 180 thousand.

Table 2. Changes in average number of fed cattle marketed per feedlot, 13 major cattle feeding states, 1973 and 1993.

Region/state	Average number of fed cattle marketed per feedlot 1973	1993	Change from 1973 to 1993 Number of head	1993 as a multiple of 1973
South Dakota	61	121	+ 60	1.98
Midwest-heartland states				
Iowa	100	94	- 6	0.94
Illinois	63	62	- 1	0.98
Minnesota	74	61	- 13	0.82
Nation's "big-three" fed cattle producers				
Texas	2,878	8,266	+ 5,388	2.87
Kansas	385	1,733	+ 1,348	4.50
Nebraska	210	798	+ 588	3.80

The numbers of fed cattle marketed in two intermediate size-of-feedlot categories, however, have shown sustained increases. For feedlots with a 1,000-2,000 head capacity, numbers increased from 50 thousand in 1973 to 71 thousand in 1993. For feedlots with a 2,000-4,000 head capacity, the increase was from 32 thousand to 114 thousand.

Thus, the mix of fed cattle marketed in South Dakota in 1993 was as follows:

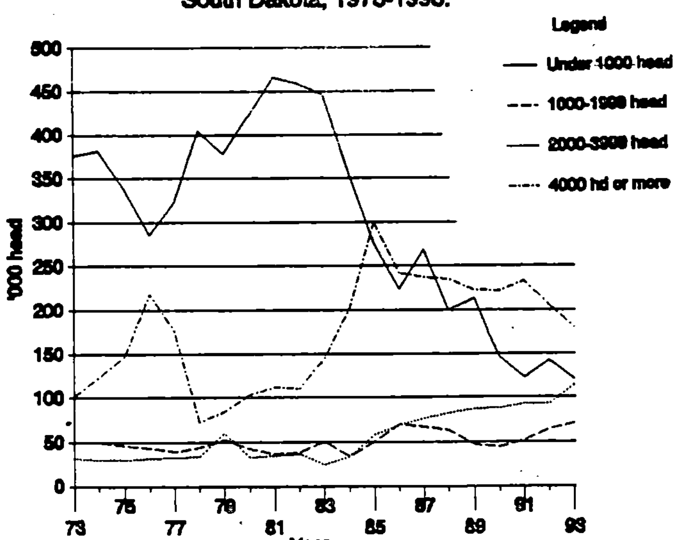
* 120 thousand (25%) from feedlots with < 1,000 head capacity;
* 71 thousand (15%) from feedlots with a 1,000-1,999 head capacity;
* 114 thousand (23%) from feedlots with a 2,000-3,999 head capacity; and
* 180 thousand (37%) from feedlots with > 4,000 head capacity.

"Midwest-heartland" cattle producing states

Between 1973 and 1993, the three major cattle feeding states in the "Midwest-heartland"--Iowa, Minnesota, and Illinois--experienced a drop of 54% in their fed cattle marketings (Table 1). While the numbers of feedlots in these states have dropped during the past two decades, the extent of drop has been less than that in South Dakota and in the "big-three" states described in the next section.

Further, since 1973, the average size of feedlot in each of the three Midwest-heartland states has decreased (by 2-18%) (Table 2). While South Dakota's average size of feedlot was less than that in any of the three Midwest-heartland states in 1973, it has now risen to become larger than that in any of these states.

Figure 1. Fed cattle marketed, by size-of-feedlot category, South Dakota, 1973-1993.



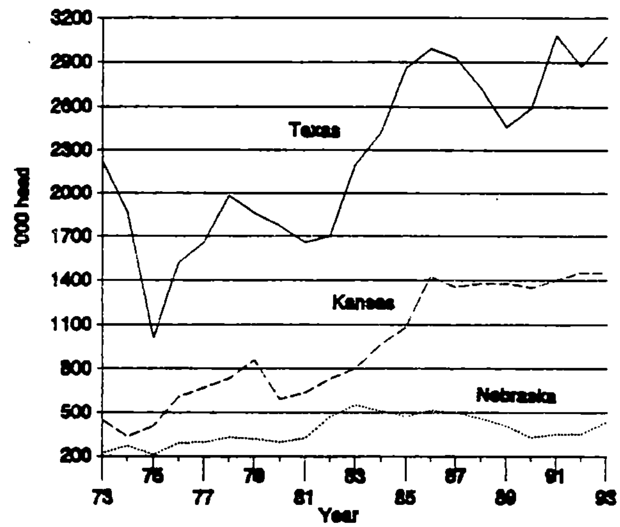
"Big-three" cattle producing states

The nation's "big-three" cattle producing states--Kansas, Nebraska, and Texas--are located in the Central and Southern Plains. In 1973, these three states accounted for 39% of the nation's total fed cattle marketed. Between 1973 and 1993, the number of fed cattle marketed in these three states increased by 3.7 million or by over 35% (Table 1). As a result, these three states now account for 54% of the nation's fed cattle marketed.

The numbers of feedlots in the "big-three" states dropped by well over one-half during the past two decades--to 35%-42% of the respective 1973 statewide numbers. The average size of feedlot in the various states, however, increased by 2.9-4.5 times. The 1993 averages were 588 head in Nebraska, 1,348 head in Kansas, and 5,388 head in Texas (Table 2).

Throughout the past two decades, marketings of fed cattle from mega-feedlots have been far greater in Texas than in any other state in the nation (Figure 2).

Figure 2. Fed cattle marketed from feedlots with a capacity of > 32,000 head.



Between 1973 and 1993, cattle marketings from mega-feedlots in the big-three cattle producing states collectively have increased by over 70%. These increases have been greater in Texas and Kansas than in Nebraska. Except for South Dakota and the three Midwest-heartland states, the other 9 of the 13 major cattle feeding states have realized patterns of growth in percentages of total fed cattle produced in mega-feedlots roughly similar to those portrayed in Figure 2.

Readers interested in a more detailed discussion of the matters presented in this newsletter should request from the author a copy of the "structure of fed cattle industry" report.

****

(Livestock Outlook– cont'd from p.1)

First, there will be plenty of pork (discussed above) and poultry, probably at prices much lower than where beef will be priced. The broiler industry has had increased production for 20 straight years and continues to strive for expanded markets. Look for the pork industry to do much of the same. And, look for the pork industry to be much more competitive with other meats, especially beef.

Second, the record corn crop will encourage increased production of pork, poultry and beef in the near term. In addition, some land in the CRP (Cropland Retirement Program) soon could be available for production. That could mean more land to support cattle production.

Third, some large scale hog producers are looking at turning around the old "hogs follow cattle" program to one where "cattle follow hogs". Large scale hog production brings with it a "manure handling" problem. When manure is applied to grassland, increased beef production is possible. Some producers are looking at that alternative to produce more beef.

Finally, the beef industry is evaluating a change at the "industry representation" level. The plan being considered would put several promotion and industry advocacy organizations under one title.

In total, both the beef and pork industries should expect lower prices over the next two or three years. As noted earlier, for hogs that probably means the $30's more often than not. For slaughter cattle, that could mean the $60's and for calves (500 pounders), the $80's. These prices are below what many would like, and could create some "weeding out" of inefficient producers. That process is one that has been around for some time.

****

ECONOMICS
COMMENTATOR

EDITOR: Donald C. Taylor, Agricultural Economist

ECONOMICS DEPARTMENT
South Dakota State University
Box 504A
Brookings, SD 57007
Phone: (605) 688 - 4141

475 copies of this newsletter were produced at a cost of less than $100

SOUTH DAKOTA STATE UNIVERSITY
Economics Department
Box 504A
Brookings, SD 57007

Address Correction Requested

Non-Profit Org.
U.S. Postage
PAID
Brookings, S.D.
Permit 24