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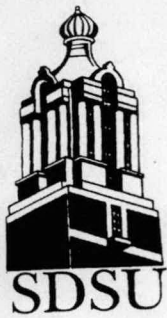
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SD SWINE INDUSTRY: CHANGES OVER THE LAST FIVE YEARS



by

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The swine industry in South Dakota is in a state of immense change. Although there is no real way of accurately predicting where the industry is going in the future, much can be gained from examining what the industry has done in the past. Using data from USDA's National Agricultural Statistical Service (NASS) and South Dakota Agricultural Statistical Service (SDASS), this article examines the South Dakota swine industry over the past 5 years and compares that with what the industry has done on a national level.

Hog Inventory

Because of a number of factors, not the least of which is the low prices of 1994, we have seen a significant drop in hog numbers in South Dakota. Total hog and pig inventory has decreased by 32% in South Dakota since 1992, with current inventories at 1,780,000 head (Figure 1). Total inventories peaked in 1992 at 1,830,000 head and have been decreasing ever since. Numbers of hogs decreased sharply from 1995 to 1997. Total numbers have rebounded slightly in 1998 with an 11% increase over March 1, 1997. This increase came totally from marketing hogs, as breeding inventories have decreased by 6% from year ago levels to 150,000 head, the smallest March 1 breeding herd inventory since these estimates began in 1963. Marketing hog inventories from 1997 to 1998 increased by 13% to 1,100,000 head, 69% of the number of marketing hogs in South Dakota five years ago.

This decrease in inventory has dropped South Dakota from the 8th largest swine producing state in the nation to number 11. Nationally, there was an increase in hog numbers in this time period. National total hog and pig inventories reached 60,070,000 head as of March 1, 1998. This is a 6% increase from 1992. Marketing inventories increased 8%, while breeding inventories are 2% behind 1992 levels. That gain in total inventory was not distributed evenly across the nation. Eleven states gained hog numbers, led by gains in North Carolina, Oklahoma, and Missouri. Much of that gain can be attributed to growth of the very large producers, or integrators, who have (Continued on page 2)

BFP FUTURES OFFERING ABOVE AVERAGE PRICING OPPORTUNITIES



by

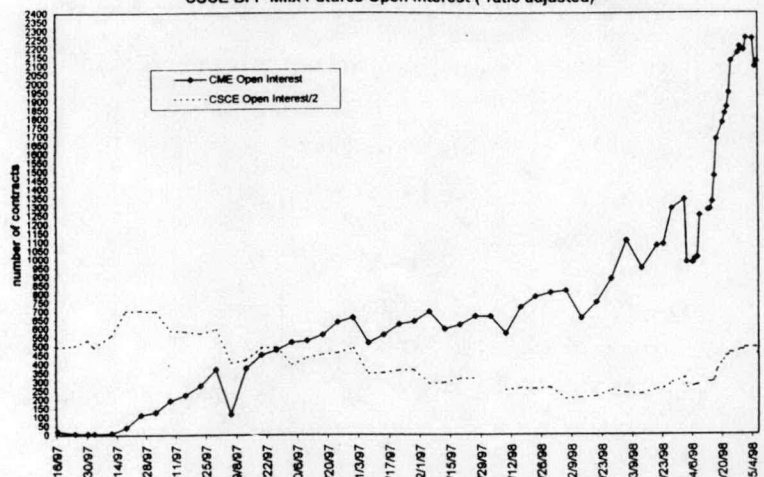
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The Basic Formula Price (BFP) futures markets have offered, and still are offering, some good pricing opportunities. As a result, use of futures contracts is growing. Open interest (the number of contracts held by, but not yet offset, by buyers) at the Chicago Mercantile Exchange has increased from about 650 contracts in mid February to 2150 in early May (a 250% increase - See Figure 1). This growth has been encouraged by declining BFP futures prices for the May through August contracts and dairy producers' recognition of their need for price protection in volatile markets.

Figure 1.

CME BFP Milk Futures Open Interest

CSCE BFP Milk Futures Open Interest (*ratio adjusted)

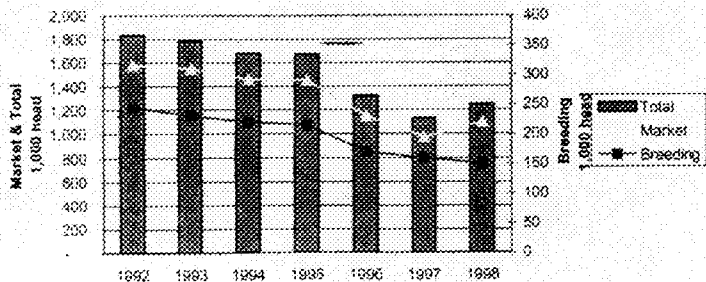


*Each CME contract = 200,000 pounds of milk, Each CSCE contract = 100,000 pounds of milk. The CSCE open interest was adjusted to reflect the ratio of 2:1 between these two contracts.

The closing prices for the June, August, October and December CME BFP futures are charted in Figure 2. Notice the steep decline and partial recovery in prices for the June and August contracts. Also, take note of the strong price up trend in the October and December contract prices. With this kind of activity in the market, it behooves dairy producers, processors and (Continued on page 3)

grown through contracting with small producers. Thirty-nine states, including South Dakota, Iowa, and Nebraska, lost only slightly fewer numbers of hogs than the other eleven gained.

Figure 1. Hog Inventory, South Dakota
March 1



In total, pork production in South Dakota has decreased from over 800 million pounds in 1992 to almost 560 million pounds in 1997. South Dakota production as a percent of total US production has decreased one percentage point from 3.3% to 2.3% for that same time period.

Prices Paid

The average annual price paid for all hogs, live weight, has varied from \$41.80/cwt. in 1992 to \$53.90/cwt. in 1997. Prices dipped below the \$30/cwt. live weight level in the last quarter of 1994, significantly hurting many producers. Prices again dipped into the \$30/cwt. range starting in the last quarter of 1997 and continuing through April 1998. The average annual price in South Dakota has varied inversely with average marketings (Figure 2). As can be seen in Figure 3, live weight prices for all hogs, price of feeder pigs, and the hog-corn feed ratio¹ had all moved in fairly parallel movements until 1996. In that year, the hog-corn feed ratio was relatively low because of the high cost of corn. Prices on the national level have followed the same pattern as those in South Dakota, with our prices consistently bringing a slight premium of one to three percent over the national average since 1992.

Figure 2. Marketings vs Price, South Dakota

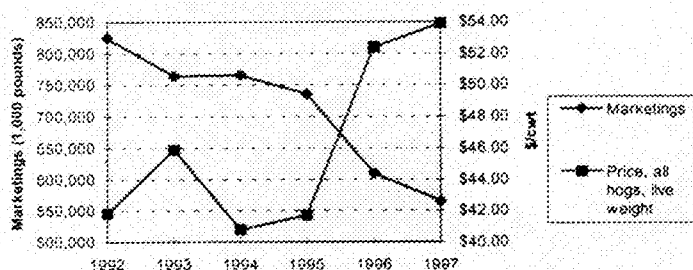
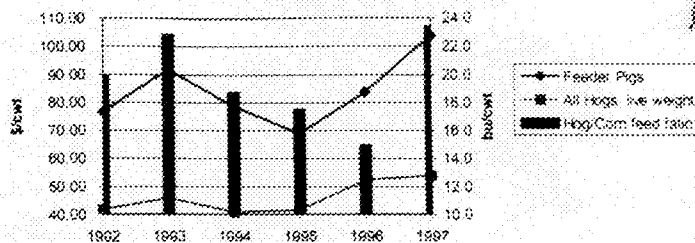


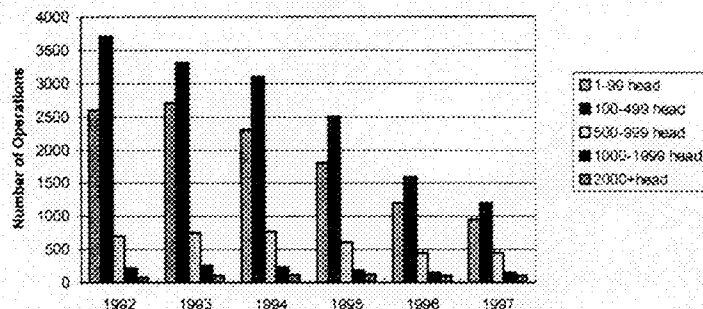
Figure 3. Hog & Related Prices, South Dakota



Distribution of Farm Size

Perhaps the largest change we have seen in the swine industry in the last five years is the exit of the smaller producers from the industry. Figure 4 shows that the number of smaller operations has decreased dramatically over the last five years. The number of operations with fewer than 1,000 head have decreased from 7,000 farms in 1992 to 2,500 farms in 1997. The decrease in the number of operations with fewer than 500 head is even more dramatic, from 6,300 to 2,150 farms. That is one-third of the number of farms! All sizes of operations have lost numbers of farms except the largest category, operations with over 2,000 head, which has increased from 80 operations in 1992 to 100 operations in 1997. In total, less than 40% of the farmers who had a swine operation in 1992 were still in the swine business in 1997.

Figure 4. Hog Operations, South Dakota



Although the number of operations in all but the largest size level have decreased, the actual percent of the number of farms by size of operations has not changed as dramatically over the last 5 years (Table 1). A large majority of the farms in South Dakota still have fewer than 500 head of hogs. In 1992, those farms with fewer than 100 head of hogs were 36% of the total number of hog operations in the state. This number has decreased to 33% in 1997. Those operations with over 1,000 head have increased from 4% to 9% of total operations in the last five years. Again, we have seen the largest change in the 100 to 500 head category, which has decreased from 51% in 1992 to 42% of all operations in 1997. In this category, with 1,200 farms in 1997, we had 2,500 fewer producers in 1997 than in 1992. Nationally, there is a larger percentage of the farms that are smaller operations, but there are larger farms that account for a big percentage of the inventory.

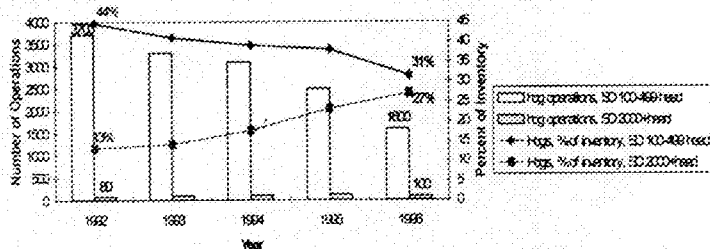
¹ The hog-corn feed ratio represents the number of bushels of corn it takes to equal the value of one hundred pound of all hogs, live weight. It is calculated by dividing the price of hogs by the price of corn.

Table 1. Number of farms and percent, by size, SD & US

	total number of farms	1-99 head	100- 499 head	500- 999 head	1000- 1999 head	2000 + head	5000 +
1992	7300	36%	51%	10%	3%	1%	---
1993	7100	38%	46%	11%	4%	1%	---
1994	6500	35%	48%	12%	4%	2%	---
1995	5200	35%	48%	12%	3%	2%	---
1996	3500	34%	46%	13%	4%	3%	---
1997	2840	33%	42%	15%	5%	4%	---
US, 1997		61%	22%	8%	5%	3%	1%

Following a national trend, an increasing proportion of the hogs in South Dakota are being raised on bigger farms. The smallest 87% of farms (those with less than 500 head) had 50% of the inventory in 1992, while the top 4% of the largest farms (1000+ head) had 28% of the inventory (Figure 5 shows only two categories: 100-499 head and 2000+ head). In 1996, those numbers had changed to 80% of the farms with 35% of the inventory and 7% of the farms with 42% of the inventory. Using those same categories on a national scale, in 1997 the smallest 83% of farms had 15% of the national inventory while the largest 9% had 71% of the hogs. This is so much larger than the inventory of large producers in South Dakota because there is a handful of mega-producers with inventories over 5000 head who account for a very large portion of the national inventory.

Figure 5. Hog Operations and Percent of Inventory, South Dakota



Farrowings

There has been a decrease in the number of sows farrowed in South Dakota from 411,000 sows in 1992 to 268,000 sows in 1997, a 35% decrease. That, even with a 6% increase in pigs per litter, has resulted in a decrease in total pig crop of 31% from 1992 to 1997 (Table 2). The 8.50 average pigs saved per litter in South Dakota compares with 8.63 pigs per litter on a national basis for the last quarter of 1997. The very large operations have increased production not only through expansion in numbers but also through increased efficiency in litter size. Operations in the US with more than 5,000 hogs and pigs averaged 8.90 pigs per litter for the last quarter in 1997.

Concluding Comments

In conclusion, a few comments about future industry growth are in order. Future growth of the swine industry in South Dakota is going to depend upon a number of factors, including market competitiveness and institutional restrictions. Three alternative methods of increasing hog production in South Dakota

are often mentioned. First, networking activity and coordination may help those smaller producers with under 500 head capacity to become more competitive in the marketplace. Second, contracting with the large integrators is one method of increasing hog production that has received considerable attention recently in South Dakota and in many other states in the Midwest. (Gene Murra provided an in depth discussion of contracting in the November 12, 1996 edition of the *Economics Commentator*.) Increased use of contract feeding will of course depend upon results of the vote on the proposed Constitutional Amendment E in November. The third method of increasing production that is often mentioned is growth of the independent producers. This method of production is becoming increasingly difficult as market outlets disappear and prices continue to struggle to increase from the low prices we have seen since December.

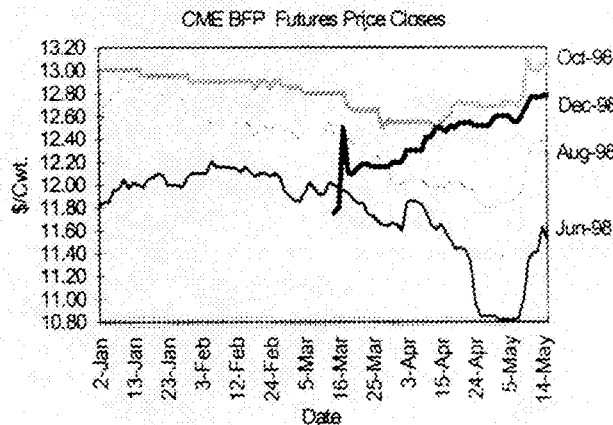
Table 2. Sows farrowed, SD

Year	Sows farrowed (1,000)	Pigs per litter	Pig Crop (1,000)
1992	411	7.99	3,284
1993	380	8.14	3,094
1994	390	8.07	3,147
1995	329	8.15	2,680
1996	260	8.40	2,178
1997	268	8.50	2,278

(BFP Prices (Cont'd from p. 1))

handlers to use some kind of price protection for their production, raw input purchases and inventories.

Figure 2



Market Forces

There are several market forces which dairy producers should consider. Milk production for the first quarter of 1998 is 0.7% above what it was for the same period a year earlier. This increase in production occurred despite fewer cows.

The higher production can be attributed to several factors. The spring flush came earlier than normal this year. Lower grain and protein prices are encouraging farmers to push



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their cows a little harder. Also, the economic problems in Japan and Asia have priced Asian dairies out of the alfalfa market. When the Yen and other Asian currencies weakened, they could no longer afford top quality US alfalfa and it became available to western dairies at profitable prices. This improved the cows' diets and is helping boost production. Consequently, milk production has been heavy this spring in the Pacific Northwest and Mountain States.

Cold storage of cheese and butter is up. Butter in cold storage as of March 31 was 56.22 million pounds, up 12% compared to 1997 and up 27% from February 1998. However, the butter market has remained strong. Grade AA butter on May 15 at the Chicago Mercantile Exchange was \$1.49 per pound, 56 cents above year ago prices. American cheese in cold storage totaled 422.65 million pounds, up 8% from March 1997 and up 3% from February 28, 1998. Cheese prices have dropped recently but remain above year ago prices. On May 14, blocks sold at the CME for \$1.2300 a pound compared to \$1.1650 a year ago. Barrels sold at \$1.2000 compared to \$1.1375 a year ago.

USDA weighted average cheese prices, which are used by the USDA in determining the BFP, have been declining. For the week ending May 8, barrels were down for the 11th consecutive week and blocks were down for the 12th consecutive week. During this time, block prices fell 23.8 cents to \$1.181 and barrels fell 21.9 cents to \$1.190. This means the May BFP will be lower.

The BFP prices were very strong by historical standards for the first quarter this year. The current June and August BFP futures prices are very close to their 12 year monthly averages while October and December are in the upper one-third of their historical ranges.

The average US milk price for the 1998 calendar year is expected to fall between \$13.40 and \$13.90. The average price for 1999 is expected to be between \$13.15 and \$14.15. Last year, the average price was \$13.34.

Summary and Conclusions

Milk production for this year is running ahead of a year ago and will catch up with any increases in use in 1999. Cheese and butter prices are strong compared to a year ago, but cheese prices have been on the decline for the past three months. There are strong differences of opinion where butter prices will go in the short run. Some expect prices to decline, while other expect them to increase.

Thus, it looks like dairy operators should evaluate price protection of some sort. For the fall months, a cash forward contract or straight hedge appear to be the most economical. The marginal benefit of using a put seems small compared to the additional cost. For the summer months, the best strategy is less clear. While I lean toward the hedge or cash forward contract, a put could be good insurance and still allow for any increase in the BFP on announcement day.

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