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## Swine Production and Marketing Trends in South Dakota

by  
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South Dakota is one of the nation's top 10 hog production states. The three million hogs and pigs marketed each year in the State represent 3-4% of the nation's total hog supply. South Dakota's share of U.S. swine marketings over the past 25 years has increased slightly.

Significant changes have occurred in production and marketing patterns of South Dakota swine producers. Six of the changes are covered in this Newsletter.

### State-Wide Production Trends

The economic structure of South Dakota's swine industry is rapidly changing. For example, the number of South Dakota swine producers declined 60% from 1959 to 1978. Total farm numbers declined 29% during this same period. In 1959, three of five South Dakota farms produced hogs and pigs; in 1978, less than one-third were involved in swine production.

The average size of swine enterprise in South Dakota in 1978--223 hogs and pigs sold per farm--is three times the average in 1959. In 1978, the 300 largest South Dakota producers each sold 1,000 or more hogs and pigs per year, compared to only five swine producers in 1959. These large producers (2.3% of the State total) marketed an average of 2,200 hogs and pigs per farm and sold 22.8% of the swine marketed from South Dakota farms (Table 1). Rapid growth in swine enterprise size has coincided with

developments in hog confinement technology, improved breeding herd management practices and improved nutrition and disease control.

Table 1. Distributions of Farms and Hog Sales  
1969 and 1978

Number of hogs and pigs sold per farm	Percent of farms selling hogs and pigs		Percent of hogs and pigs sold	
	1969	1978	1969	1978
1-99	50.2	42.4	17.1	8.7
100-499	46.5	48.5	64.4	48.1
500-999	2.7	6.8	11.8	20.4
1,000 or more	0.6	2.3	6.7	22.8
	100.0	100.0	100.0	100.0
Thousands of producers	18.8	13.0		
Thousands of hogs and pigs sold			2,689	2,891

Source: U.S. Census of Agriculture-South Dakota, 1978 and 1969 reports

Although large swine operations have become common, most hogs and pigs are marketed from small and medium size swine operations. Five of every nine swine producers (55.3%) annually market 100-999 hogs and pigs. In 1978, these producers sold 68.5% of hogs and pigs marketed from South Dakota farms.

Younger producers (less than 35 years old) increased their share of hog and pig marketings from 16% in 1969 to 25% in 1978. This change resulted from higher numbers of young people entering farming in the 1970's compared to the 1960's and young farmers having larger hog production units than older producers.

Feeder pig production and sales increased 80% from 1969 to 1978. Feeder pigs comprised 22% of the total number of hogs and pigs sold in 1978, up from 13% in 1969. Almost one of every four swine producers sells feeder pigs. Many of these producers are completely specialized in feeder pig production.

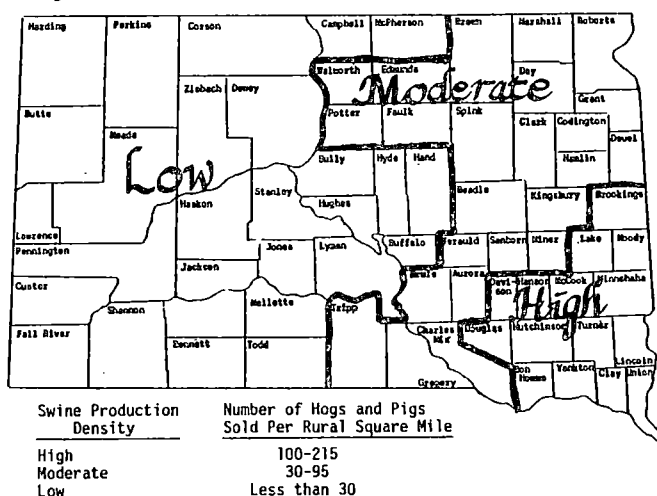
### Regional Shifts in Production

Swine production is concentrated in east central and southeastern South

Dakota. It is expanding most rapidly on the western fringes of this concentrated swine area.

Geographic concentration is directly related to the marketing needs of the agribusinesses serving swine producers, especially packers and others desiring to reduce procurement and selling costs. Swine production densities -- the numbers of hogs and pigs sold per rural square mile -- in major hog production areas of Iowa and Illinois commonly range from 200 to 400. In 1978, fifteen counties in eastern and southeastern South Dakota had production densities exceeding 100. Production density was highest in Hutchinson and Union counties - over 200. (Figure 1)

Figure 1. SWINE PRODUCTION DENSITY REGIONS, 1978



Production densities rapidly decline as one moves north and west from this 15 county area. Twenty three counties, mostly in central and northeastern South Dakota, have swine production densities of 30-95 and most western counties have production densities of less than 30.

Feeder pig production has increased in most counties of the State. The largest increases have occurred in western, central and portions of southeastern South Dakota. The western and south-central counties have the greatest amount of specialization in feeder pig production 63% and 35% respectively of total numbers of hogs and pigs sold). The lowest proportions of feeder pig to total swine marketings are in the extreme southeastern counties of the state (less than 15%).

## Producer Characteristics-1980 Survey

Information on changing marketing patterns was obtained from a 1980 marketing survey of nearly 600 South Dakota swine producers. This survey was supported by the South Dakota Pork Producers Council and the SDSU Agricultural Experiment Station.

Respondents were located throughout South Dakota, but were concentrated in the east-central and southeastern regions of the state. Respondents numbered 5% of South Dakota pork producers and marketed 12-13% of all hogs and pigs sold from South Dakota farms. They are generally representative of South Dakota producers selling 100 to 2,500 hogs and pigs per year.

The typical respondent was a family farmer, 43 years of age, with 18 years of continuous pork production experience. He marketed 450-500 head of hogs and pigs annually and more than 45% of his total farm sales was from hogs and pigs. Gross farm sales were about \$100,000 annually. He raised most of the feedgrain fed to his hogs.

Large-volume and highly specialized operations are fairly common. For instance, 45% of hogs and pigs sold were from farms selling more than 1,000 hogs and pigs annually. Sixteen percent of respondent farms were highly specialized in hog production, receiving 75-100% of total farm sales from the swine enterprise.

Five of six respondents farrowed pigs on their own farm. Fifty-nine percent farrowed and finished their raised hogs, with a few (6%) purchasing additional feeder pigs for finishing. Another 6% were completely specialized in feeder pig production, while 16% purchased feeder pigs for finishing and did not farrow any pigs. The remaining 19% were diversified producers who ran farrow-to-finish operations and raised feeder pigs for sale.

Producers who sold feeder pigs (one fourth of respondents) were generally younger and had less production experience than other swine producers. They were also more specialized in swine

production and a higher percentage of them were located in western and central South Dakota.

### Market Channels and Transportation

There have been considerable changes in market channels used by South Dakota swine producers. Packers and buyers have increased their share of hog marketings while the use of terminal markets has declined. The share of auction markets in total slaughter hog marketings has remained the same.

The most frequently used market channel for slaughter hogs is the terminal market which was used by about 44% of the respondents (Table 2). However, a greater volume of slaughter hogs was marketed directly to packing plants. Larger-volume hog producers (obtaining a majority of their farm sales from hogs) were more likely to sell directly to packing plants.

Table 2. Marketing Channels for Slaughter Hogs

Market Channel	Slaughter Hog Sales	
	Percent of slaughter-hogs marketed	Percent of slaughter hog producers using market channel
Packer-direct shipment	36.5	38.0
Terminal	29.0	44.2
Auction	14.7	37.6
Buyer-other <sup>b</sup>	19.8	27.0
	100.0	

Source: 1980 producer survey.

<sup>a</sup>Percent of producers using market channels totals more than 100% due to multiple use of channels by many producers.

<sup>b</sup>Order buyers, packer buyers and local collection points.

About 38% of the respondents used more than one market channel during the year. Younger respondents with higher levels of education tended to use multiple channels. The most frequently used market channel combinations were terminal-packer, auction-packer and auction-buyers.

About 75% of the slaughter hogs marketed were farrowed on the respondents' own farms. Auction markets and terminal markets accounted for one-half of feeder pig purchases, while direct farm purchases and feeder pig cooperatives each accounted for one-fourth of purchased feeder pigs.

More feeder pigs were sold by direct marketing to other farms than by any other method. However, auction markets were used by more feeder pig producers to market their pigs.

Transportation of hogs and pigs from farm to point-of-first-sale generally involves short distance movements. Three-fourths of hogs and pigs were shipped less than 50 miles from the home farm. Small trucks (single axle) and trailers are the most common transport modes for feeder pig and slaughter hog shipments. Semi-truck and tandem axle trucks are normally used for longer distance-larger volume shipments.

Most longer distance interregional movements of slaughter hogs involve shipments to packers and terminal markets located in eastern South Dakota, Iowa, Minnesota and Nebraska. Approximately 12% of respondents' slaughter hogs were shipped to out-of-state markets.

### Slaughter Hog Marketing Methods

More than 90% of the slaughter hogs were marketed from 200-240 pounds. About 60% of the respondents indicated that marketing their hogs at the "right" weight was the determining factor for selecting marketing dates. Other producers indicated market weight as an important factor, but they also studied daily market prices to determine the best day of the week to market their hogs.

Liveweight pricing method was used as the only means of pricing slaughter hogs by 75% of the respondents. A few respondents (4%) used grade-and-yield pricing only, while 20% used both pricing methods. Grade-and-yield pricing was used to market 23% of the slaughter hogs. Larger-volume producers were more likely to use grade-and-yield pricing methods.

### Alternative Pricing Methods

All except three respondents reported using the cash market. The most important benefits of the cash market to respondents were uncomplicated marketing method, location of market, known price

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at time of sale, and satisfactory profits.

A limited number of respondents (2.4%) engaged in forward contracting or used future markets as part of their marketing plan. The most important benefits of these forward pricing techniques were assured "locked-in" price, acceptable profits, and less uncertainty in planning the swine enterprise.

The main reasons cited by most producers for not using forward contracts or futures markets were too small a volume of hogs to warrant a contract, not fully understanding the complexities of contracting, and preferring to use the cash market only.

**Age and Experience Affected Responses**

Respondent age and years of pork production experience affected responses to many questions in the survey. For example, older, more experienced producers preferred the cash market while

younger, less experienced producers wanted to know more about forward contracting and futures markets.

Younger producers preferred to use more than one market channel for slaughter hog and feeder pig sales. Older producers generally used only one market channel.

Younger producers were interested in expanding their swine operation and indicated lack of credit and high interest rates as the most severe limiting factors. Most older producers were not planning to expand their swine operation, so credit was less of a problem for them.

**New Publication**

Readers wanting detailed information on results of the South Dakota pork marketing survey should write the author requesting a copy of "Swine Marketing in South Dakota, Results of a Producer Survey," Econ. Dept. Research Rep. 83-5.