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Soybeans Marketing Patterns In South Dakota and Possible Impacts of SD Soybean Processing Plant

Bashir A. Qasmi
South Dakota State University, Bashir.qasmi@sdstate.edu

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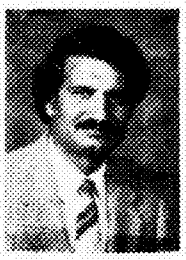

by
Bashir A. Qasmi[1]
Associate Professor
Agricultural Marketing

In an era when federal spending on farm programs is being cut and agricultural producers are expected to be increasingly more reliant on the market, the role of farm commodity groups in market development is becoming more important. This article will describe the marketing techniques, transportation modes used, and processing facilities for South Dakota grown soybeans. It is based on a survey of SD grain elevators conducted in 1997.

The specific objectives of the survey were to identify: the quantities handled, alternative methods of sale and purchase, major destinations, and the relative importance of alternative modes of transportation for the major grains handled by grain elevators in South Dakota. Through this survey, researchers sought information on major grains handled by the grain elevators during the marketing year 1994-95. The results of the survey have been released in a number of research reports (some of which are listed in the reference section of this article). Since the completion of the survey, the only soybean processing plant in South Dakota started its operation in 1996. In this article, a summary of the major findings of the survey relating to the marketing patterns of the soybeans handled by South Dakota elevators is presented, and possible impacts of the soybean processor's plant on the South Dakota soybean marketing patterns are discussed.

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Quantity of Soybean Handled by S.D. Elevators

During the years 1990 through 1994, on average, South Dakota produced 60.9 million bushels of soybeans. About 88.0% of these soybeans were produced in the Southeast, East Central, and Northeast regions of the state (Figure 1). It is estimated that during the marketing year of 1994-95, grain elevators in the state handled 80.6 million bushels of soybeans, which was 95.1% of the total soybeans available (production and carry-over) in the state during the year. About 81% of these soybeans originated in the Southeast, East Central, and Northeast regions of the state (Figure 2).

Methods of Purchase and Sale Used by Elevators

The elevators reported the use of several methods of purchase for soybeans. Cash purchase was the most dominant method of purchase, accounting for 48.8% of the soybeans purchased by the elevators. Cash forward contracting and delayed pricing accounted for 29.4% and 15.7%, respectively. Purchases by basis, hedged to arrive, and minimum price contracts accounted for only 5.4% of the soybeans purchased by the elevators.

The three main methods used by country elevators for the sale of soybeans are cash sales, cash forward, and basis contracts. Cash sales accounted for 63.45% of the soybeans sold by the elevators during the year 1994-95. Cash forward and basis contracts accounted for 17.5% and 13.4%, respectively, and other methods accounted for the remaining 5.65%.

Figure 1. Soybean Production in SD, by Region, 90-94 Average

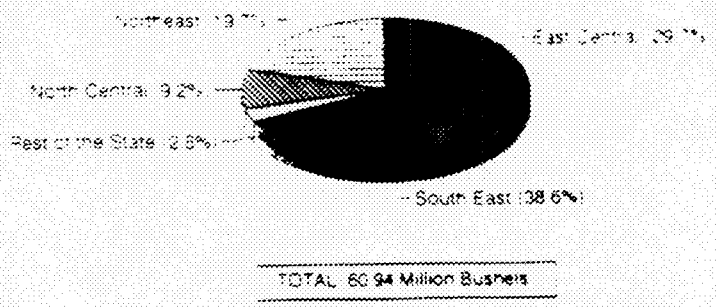


Figure 2. Soybeans Handled by SD Elevators, by Region, 94-95

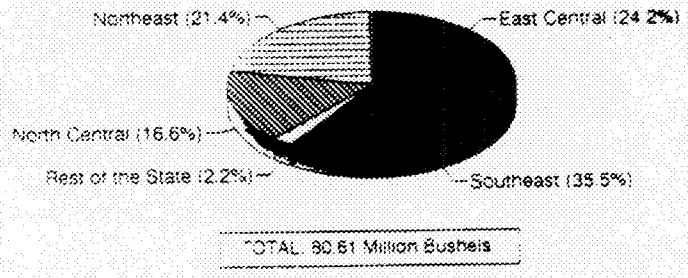
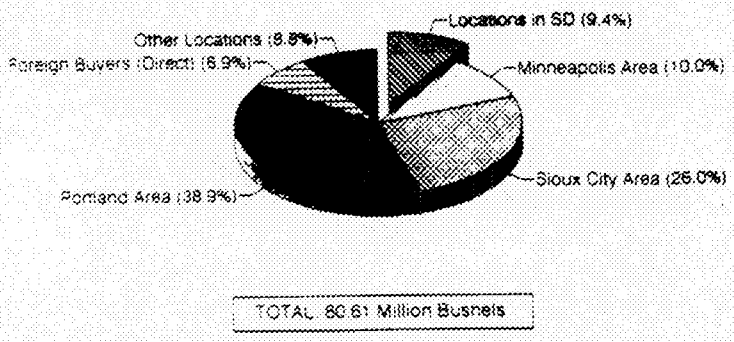


Figure 3. Soybean Shipments by SD Elevators, by Destination, 94-95



Types of Buyers

South Dakota grain elevators reported that terminal elevators and the processors are the two most important buyers of their soybeans. During the marketing year of 1994-95, country elevators sold 49.2% of their soybeans to terminal elevators. Sales to processors accounted for 37.9%, and soybeans shipped directly to foreign buyers during the year accounted for another 6.9% of the soybeans handled by country elevators.

Shipment Destinations

It is estimated that out of 80.6 million bushels of soybeans handled by the South Dakota elevators during the marketing year 1994-95, only 9.4% were shipped to various locations within the state. Shipments to Portland, OR, and Sioux City, IA, accounted for 38.9% and 26.0%, respectively (Figure 3). Another 10.0% of the soybeans handled by South Dakota elevators during the year were shipped to the Minneapolis area.

Shipment Modes

Both rail and trucks are important modes of transportation for soybeans handled by the SD elevators. It is estimated that, during the crop year 1994-95, 59.1% of the soybeans were shipped via rail, and the remaining 40.9% were shipped via truck. The dominant mode of transportation for a location is directly related to the extent to which the elevators in the area have access to rail and the availability of rail cars. Elevators in North Central and Northeast regions of South Dakota rely more on rail for transportation of their soybeans, whereas elevators in East Central and South Central regions of the state rely more on truck transportation.

Impacts of SD Soybean Processing Plant on Soybean Movements

Since the completion of the survey, the most important factor with possible impacts on South Dakota soybean movements has been the start of the South Dakota Soybean Processors' plant at Volga, SD. The plant started operation on October 8, 1996, and is

expected to process about 22.0 million bushels during the marketing year 1997-98. Currently, about 85% of the soybeans processed by the plant originate within a 50 mile radius of the plant. Another 5% of the soybeans originate from the elevators in the Aberdeen, SD area, and the remaining 10% come from elevators located in southwestern Minnesota. About 80% of the soybeans are purchased directly from farmers, and the remaining 20% are purchased from elevators. In terms of the modes of transportation, 97% of the soybeans arrive at the plant via truck, with the remaining 3% via rail.

Currently, rail is used to ship about 32% of the plant's meal production to the Pacific northwest, 15% to Canada, and 3% elsewhere. Trucks move about 25% of its production to Canada and 25% elsewhere. Thus, the split for meal is 50% rail and 50% truck. Rail is used to ship 85% of its oil production to Mankato, MN. Trucks move the remaining 15% mostly to Mankato, with about 1% going to Sioux City, IA.

Between the crop years 1994-95 and 1997-98 inclusive, soybean production in South Dakota increased by 29.8 million bushels, which is more than the amount currently processed annually by the plant. Therefore, for the state as a whole, the total bushels of soybeans handled by the elevators are not expected to decrease from the 1994-95 level. However, about 17.6 million bushels of the soybeans processed by the plant are expected to be purchased from the farmers within 50 miles of Volga covering parts of Deuel, Codington, Hamlin, and Clark counties in the Northeast region and parts of Brookings, Kingsbury, Moody, Lake, Miner, and Sanborn counties in the East Central region. During the crop year 1997-98, these ten counties, jointly, produced 31.0 million bushels of soybeans, up 11.4 million bushels from the crop year 1994-95. Accordingly, the elevators in these counties are expected to handle about 7.3 million bushels fewer soybeans during the year 1997-98 than during 1994-95.

During the marketing year 1994-95, SD elevators shipped 7.6 million bushels (9.4%) of soybeans to different locations in the state and the remaining 73.0 million bushels (90.6%) were shipped to various locations out of the state. During the marketing year 1997-98, the Volga plant is expected to process 22.0 million bushels of soybeans. It can be assumed that the soybean shipments to the other locations in the state (i.e. other than the Volga plant) by SD elevators will continue to be 7.6 million bushels per year as in the year 1994-95. Therefore, it is estimated that during the 1997-98 marketing year, the proportion of the SD soybeans shipped out of the state without capturing the additional value in processing will decrease to 75.5%.

This article heavily draws from "Corn and Soybeans Marketing Patterns in South Dakota Regional Variations", South Dakota State University Economics Research Report 98-1. A copy of the research report 98-1 may be obtained from the Economics Library, Box 504, Scobey Hall, SDSU, Brookings, SD 57007-0895. A copy of a full report, "Grain Marketing Patterns in South Dakota: Methods of Purchase, Methods of Sale, Grain Destinations, and Modes of Transportation," Economics Research Report 97-1, containing the survey procedures and methods and summary results for all grains, can also be obtained from the SDSU Economics Library.

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ECONOMICS DEPARTMENT
South Dakota State University
Box 504
Brookings, SD 57007-0895

Phone: (605) 688-4141
Fax: (6050 688-6386
E-mail: StoverP@mg.sdstate.edu

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

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