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Pricing of South Dakota Hard Red Winter Wheat



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South Dakota is among 12 states which consistently produces both hard red spring (HRS) and hard red winter (HRW) wheat. Since 1979, HRW wheat production has increased from 10.4 million bushels to 55.1 million bushels in 1987. In three years between 1983 and 1987, the state's HRW wheat production exceeded HRS wheat production. HRW wheat has become a major South Dakota crop.

HRS wheat and HRW wheat compete in a number of product markets. In the northern and central region of South Dakota, the major destination market for HRW wheat is Minnesota. The Minneapolis Grain Exchange (MGE) futures contract designates HRS wheat as the deliverable class of wheat and is used frequently to price wheat delivered in Minnesota.

The traditional perspective is to assert that the HRW wheat prices most closely follow Kansas City HRW wheat prices. Kansas City has a major cash market for HRW wheat. Also, the Kansas City Board of Trade (KCBT) wheat futures contract has HRW wheat as the deliverable class of wheat.

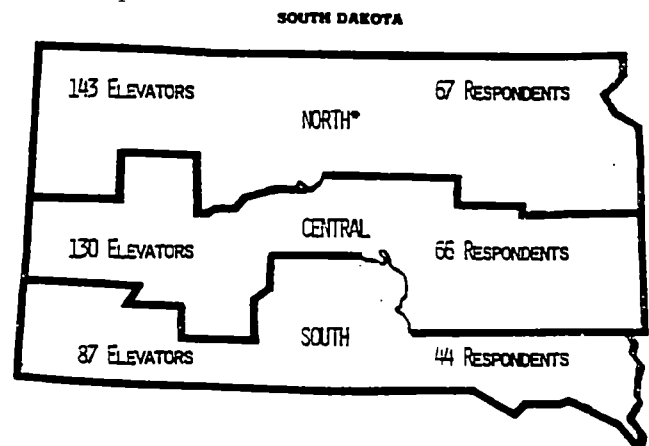
In this newsletter, the findings from a 1987 South Dakota Grain Elevator survey on the pricing and marketing of HRW wheat are discussed. The primary question addressed in this newsletter is the following: "Does the Minneapolis or Kansas City market have the most influence

on HRW wheat cash prices received by South Dakota producers?"

Description of 1987 Survey

In May 1987, a questionnaire was sent to 360 elevator managers in South Dakota. The survey response rate was 49 percent--177 of 360 elevator managers returned a completed questionnaire (Figure 1). Of these 177 survey responses, 113 managers indicated they had merchandised HRW wheat in 1986. Only responses from the managers merchandising HRW wheat were used in the analysis.

Figure 1: Number of South Dakota Elevators and Number of Managers Responding to the 1987 Survey.



For the analysis, South Dakota was divided into three geographic regions: (1) North, (2) Central, and (3) South (Figure 1). This regional breakdown was selected because of three factors which were expected to impact the pricing of HRS and HRW wheat. The east to west South Dakota railroad lines essentially divide the state into the three geographic regions. Second, a higher proportion of wheat acreage in the North region is planted to HRS wheat. Third, the South region is closer to the Omaha and Kansas City HRW wheat markets.

The researchers would like to thank the participating elevator managers for their assistance in providing information regarding their HRW wheat pricing and marketing practices. The researchers would also like to thank the South Dakota Wheat Commission for providing financial support for the research undertaken.

Number of Wheat Classes Merchandised in 1986

The three major classes of wheat produced in South Dakota are (1) HRW wheat, (2) HRS wheat, and (3) durum wheat. In the North region, the majority of elevators (52%) merchandised all three wheat classes (Table 1). None of the responding elevators in the South region handled three wheat classes, and a higher proportion of these elevators also handled only two classes of wheat.

Table 1: Number of Reponding Elevators Merchandising the Specified Number of Wheat Classes during 1986.

Number of* Classes of Wheat	Region			Total**
	North	Central	South	
1 Class	2	6	7	15
2 Classes	22	22	19	63
3 Classes	26	8	0	34
Total	50	36	26	112

*Classes of wheat handled were HRS, HRW and durum wheat.

**One manager did not respond.

We expected that elevators handling multiple classes of wheat would be more likely to deal with merchandisers which bid on both HRS and HRW wheat. Also, grain merchandisers at these elevators would be more knowledgeable of arbitrage opportunities between the two wheat classes. These facts would lead to a higher proportion of the HRW wheat cash prices based on MGE futures contracts.

HRW Wheat Price Quotes Based on MGE Futures Contracts

Some elevators in all three regions received HRW wheat price quotes based on the MGE futures contracts. Of the responding elevator managers, the Central

region had the highest proportion (80%) indicating that they had received price quotes based on the MGE futures contract (Table 2). As expected, the South region had the lowest proportion -- with only 48% of the responding managers indicating they received such price quotes.

Table 2: Number of Responding Elevators Receiving Price Quotes Based on MGE Futures Contracts.

	Region			Total*
	North	Central	South	
Received Cash Quotes for HRW Wheat Based on MGE				
Number	30	28	12	70
No Cash Quotes for HRW Winter Based on MGE				
Number	19	7	13	39
Total	49	35	25	109

*Four managers did not respond.

The regional differences of HRW wheat pricing were even more prevalent when the prices on actual sales were analyzed. The managers (those receiving bids based on the MGE futures contracts) in the North region indicated that on average 88% of their HRW wheat in 1986 was priced with the MGE futures contracts. (The reported average was not weighted by the number of bushels marketed.) In the South region only 29% of the HRW wheat per elevator was sold in this manner (Table 3). The KCBT futures contracts and Nebraska cash markets were more dominant in this region.

Table 3: Average Percentages of HRW Wheat Sold on MGE Price Quotes in 1986.

Region	Average Percentage	Number Responding*
North	88%	27
Central	59%	28
South	29%	12
State	65%	67

*Only managers indicating that their elevator received a MGE cash price quote were included.

Table 4: Average Percentage of HRW Wheat, by Protein Content and by Region during 1986.

Protein Percentage	Region			
	North	Central	South	Total*
Number Responding	50	35	26	111
Below 7.9%	.0%	.0%	.2%	.1%
8.0 to 9.9%	4.5%	8.9%	8.3%	6.8%
10.0 to 11.9%	46.5%	48.8%	64.6%	51.5%
12.0 to 13.9%	43.8%	39.0%	24.8%	37.8%
14.0 & Above	5.2%	3.3%	2.1%	3.9%
Total	100.0%	100.0%	100.0%	100.0%

*Two managers did not answer the question.

Protein Content of HRW Wheat Handled

A possible factor that would contribute to the use of MGE futures contract for the pricing of HRW wheat is protein content. The MGE futures contract specifies, as deliverable grade, HRS wheat with a protein level of 13.5% or higher to receive the contract price. KCBT futures contracts specify a HRW wheat with "ordinary" protein or 10 to 12% protein. If grading and milling factors are essentially equal, the expectation would be for HRS and HRW wheat of equal proteins to have a similar price and price fluctuations.

In 1986, the North region had a significantly higher proportion of HRW wheat marketed per elevator with high protein levels (Table 4). Elevator managers in the North region indicated that on average 49% of the HRW wheat had protein levels higher than 12.0%. In the South region, only 27% of the HRW wheat, on average, had equivalent protein levels.

Higher protein levels would make the MGE futures contracts a more attractive pricing alternative for grain merchandisers in the North region. Also, Minnesota wheat markets were indicated as being a primary destination for HRW wheat produced in the region.

Implications for HRW Wheat Producers

South Dakota HRW wheat producers are confronted with HRW wheat pricing patterns which are not uniform across the state. In the North, the pricing of HRW wheat at many local elevators probably follows the MGE price more closely than the KCBT price. Possible reasons for this pricing pattern are: (1) merchandisers receiving bids based on the MGE futures contracts, (2) the region's transportation system, (3) production of higher protein HRW wheat, and (4) greater dependence on Minnesota as a destination market.

Producers attempting to make market decisions for HRW wheat should know the HRW wheat pricing patterns of the local elevator. A discussion with the elevator's grain merchandiser will probably reveal whether HRW wheat merchandised through the elevator is priced primarily on the MGE or KCBT futures contract prices. A producer must also know the quality and protein content of the HRW wheat to be marketed. Higher protein wheat follows the MGE price more closely than the KCBT price.

If a producer is planning to hedge HRW wheat production, this information is essential. A producer would want to have a hedge using the futures contracts for

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the futures exchange used by the local elevator to price HRW wheat. The "rule of thumb" of only using the KCBT to price HRW wheat is NOT true.

Also, marketing information for basis charts and marketing decisions should be based on the cash and futures markets used by the producer's local elevator. There is little to be gained from collecting price and market information for a

destination market that does not influence the price paid by the local elevator.

The pricing of HRW wheat is a "good" example of the challenges confronting South Dakota producers. The diversity in production and marketing patterns in South Dakota causes "unique" marketing situations to develop. Producers must KNOW the ACTUAL marketing patterns of their local markets rather than depending on industry rules of thumb.