

South Dakota State University

Open PRAIRIE: Open Public Research Access Institutional Repository and Information Exchange

Electronic Theses and Dissertations

1972

Alternative Methods of Marketing South Dakota Wheat

William M.A. Murphy

Follow this and additional works at: <https://openprairie.sdstate.edu/etd>

Recommended Citation

Murphy, William M.A., "Alternative Methods of Marketing South Dakota Wheat" (1972). *Electronic Theses and Dissertations*. 4815.

<https://openprairie.sdstate.edu/etd/4815>

This Thesis - Open Access is brought to you for free and open access by Open PRAIRIE: Open Public Research Access Institutional Repository and Information Exchange. It has been accepted for inclusion in Electronic Theses and Dissertations by an authorized administrator of Open PRAIRIE: Open Public Research Access Institutional Repository and Information Exchange. For more information, please contact michael.biondo@sdstate.edu.

15

(8858)
FORM
2-9

ALTERNATIVE METHODS OF MARKETING

SOUTH DAKOTA WHEAT

BY

WILLIAM M. A. MURPHY

A thesis submitted
in partial fulfillment of the requirements for the
degree Master of Science, Major in
Economics, South Dakota
State University

1972

ALTERNATIVE METHODS OF MARKETING

SOUTH DAKOTA WHEAT

This thesis is approved as a creditable and independent investigation by a candidate for the degree, Master of Science, and is acceptable as meeting the thesis requirements for this degree. Acceptance of this thesis does not imply that the conclusions reached by the candidate are necessarily the conclusions of the major department.

Thesis Adviser /

Date

~~Head, Economics Department~~

~~Date~~

ACKNOWLEDGMENTS

This thesis is dedicated to Wm. F. Buckley in the spirit something is never so perfect that one cannot find fault in it. Thanks to the efforts of my thesis advisers, Professors Arthur B. Sogn and L. T. Smythe, "it was a rewarding experience". A special thank you is extended to Mrs. LouAnn Christensen for typing this work.

WMAM

TABLE OF CONTENTS

	Page
LIST OF TABLES	vi
 Chapter	
I. INTRODUCTION	1
A. PURPOSE AND METHODOLOGY	2
B. HYPOTHESES	3
C. REVIEW OF LITERATURE	3
D. SCOPE OF WORK	5
II. INTRODUCTION	6
A. THE COMMODITY MARKET	6
B. THE COMMODITY EXCHANGES	7
C. FUTURES CONTRACTS	8
D. SELECTED TERMS DEFINED	11
E. EXAMPLES OF HEDGING	13
III.	
A. PREHARVEST SALES	19
B. SELECTED ANALYSES OF PREHARVEST SALES OPPORTUNITIES: MINNEAPOLIS GRAIN EXCHANGE FUTURES MARKET PRICES AND CASH MARKET PRICES, 1962-1972 HARD RED SPRING AND WINTER WHEAT CROP YEARS	24
C. SELECTED ANALYSES OF PREHARVEST SALES OPPORTUNITIES: KANSAS CITY BOARD OF TRADE FUTURES, MINNEAPOLIS GRAIN EXCHANGE CASH MARKET PRICES, 1962-1972 HARD RED WINTER WHEAT CROP YEARS	29
D. HEDGING	37

Chapter	Page
E. SELECTED ANALYSES OF HEDGING HARD RED SPRING WHEAT, MINNEAPOLIS GRAIN EXCHANGE FUTURES MARKET PRICES AND CASH MARKET PRICES, 1962-1971 CROP YEARS	39
F. SELECTED ANALYSES OF HEDGING HARD RED WINTER WHEAT, MINNEAPOLIS GRAIN EXCHANGE FUTURES MARKET PRICES AND CASH MARKET PRICES, 1962-1972 CROP YEARS	44
G. SELECTED ANALYSES OF HEDGING HARD RED WINTER WHEAT, KANSAS CITY BOARD OF TRADE FUTURES MARKET PRICES, MINNEAPOLIS GRAIN EXCHANGE CASH MARKET PRICES, 1962-1971 CROP YEARS	52
H. SELECTED ANALYSIS OF SHORT-TERM HEDGING	60
IV. SUMMARY AND CONCLUSIONS	
A. SUMMARY	63
B. CONCLUSIONS	64
SELECTED BIBLIOGRAPHY	72
APPENDIX A	75

LIST OF TABLES

Table		Page
3.1	Preharvest Sales Opportunities, Minneapolis Grain Exchange, Futures Market Prices and Cash Market Prices (September Futures)	21
3.2	Preharvest Sales Opportunities, Kansas City Board of Trade Futures Market Prices, Minneapolis Grain Exchange Cash Market Prices (September Futures)	31
3.3	Variation of Basis Action for Spring Wheat, Minneapolis Grain Exchange, Cash Market Prices and Futures Market Prices, Hedging Period: September 1-November 1	41
3.4	Variation of Basis Action for Spring Wheat, Minneapolis Grain Exchange, Cash Market Prices and Futures Market Prices, Hedging Period: September 1-December 1	42
3.5	Variation of Basis Action for Spring Wheat, Minneapolis Grain Exchange, Cash Market Prices and Futures Market Prices, Hedging Period: October 1-December 1	43
3.6	Variation of Basis Action for Winter Wheat, Minneapolis Grain Exchange, Cash Market Prices and Futures Market Prices, Hedging Period: August 1-October 1	46
3.7	Variation of Basis Action for Winter Wheat, Minneapolis Grain Exchange, Cash Market Prices and Futures Market Prices, Hedging Period: August 1-November 1	47
3.8	Variation of Basis Action for Winter Wheat, Minneapolis Grain Exchange, Cash Market Prices and Futures Market Prices, Hedging Period: August 1-December 1	48
3.9	Variation of Basis Action for Winter Wheat, Minneapolis Grain Exchange, Cash Market Prices and Futures Market Prices, Hedging Period: September 1-November 1	49

LIST OF TABLES CONCLUDED

Table		Page
3.10	Variation of Basis Action for Winter Wheat, Minneapolis Grain Exchange, Cash Market Prices and Futures Market Prices, Hedging Period: September 1-December 1	50
3.11	Variation of Basis Action for Winter Wheat, Minneapolis Grain Exchange, Cash Market Prices and Futures Market Prices, Hedging Period: October 1-December 1	51
3.12	Variation of Basis Action for Winter Wheat, Kansas City Board of Trade Futures Market Prices, Minneapolis Grain Exchange Cash Market Prices, Hedging Period: August 1-October 1	54
3.13	Variation of Basis Action for Winter Wheat, Kansas City Board of Trade Futures Market Prices, Minneapolis Grain Exchange Cash Market Prices, Hedging Period: August 1-November 1	55
3.14	Variation of Basis Action for Winter Wheat, Kansas City Board of Trade Futures Market Prices, Minneapolis Grain Exchange Cash Market Prices, Hedging Period: August 1-December 1	56
3.15	Variation of Basis Action for Winter Wheat, Kansas City Board of Trade Futures Market Prices, Minneapolis Grain Exchange Cash Market Prices, Hedging Period: September 1-November 1	57
3.16	Variation of Basis Action for Winter Wheat, Kansas City Board of Trade Futures Market Prices, Minneapolis Grain Exchange Cash Market Prices, Hedging Period: September 1-December 1	58
3.17	Variation of Basis Action for Winter Wheat, Kansas City Board of Trade Futures Market Prices, Minneapolis Grain Exchange Cash Market Prices, Hedging Period: October 1-December 1	59

ALTERNATIVE METHODS OF MARKETING

SOUTH DAKOTA WHEAT

Chapter I

Introduction

Wheat growers like other farmers speculate everytime they plant or store a grain crop. Each year foreign demand, legislation, weather and other price influences cause market fluctuations which further aggravate the speculative situation. This problem is common among producers of hard red spring and winter wheat.

Historically, farmers have marketed most of their grain during harvest season. The harvest season usually offers the crop year's low price for wheat.¹ Despite this, farmers continue to deliver grain at harvest time. One might question; is this the only time to market grain? There was a time when grain buyers in the midwest area used the futures market extensively to protect their marketing margin against price changes in the interval before delivery to a subsequent buyer.²

Historical data developed by studies conducted at South Dakota State University Economics Department have revealed that corn,

¹Arthur B. Sogn, Farmer Use of Grain Futures, Bulletin 590 (Brookings: Agricultural Experiment Station, South Dakota State University, November 1971), p. 5.

²T. A. Hieronymus, Uses of Grain Futures Markets in the Farm Business, Bulletin 696 (Urbana: University of Illinois Agricultural Experiment Station, September 1963), p. 16.

oats and soybeans have been hedged successfully on the futures market by some farmers and elevator managers.³ Futures contracts for the above grains can be sold the year around on the commodity exchanges. Selected examples included: (1) making a preharvest sale before the crop is planted or while the crop is growing; and (2) when harvest is completed hedge the grain in storage while anticipating a storage payment.

A. Purpose and Methodology

This thesis is devoted to investigating alternative methods for marketing hard red spring and winter wheat most of which is usually sold or stored during the harvest period. This objective will be pursued by analyzing the cash to future price relationships for the various protein percent levels of wheat traded on the commodity exchanges. Emphasis will be placed on analyzing the use of futures markets to attain a maximum average price for wheat while incurring minimum speculation before the crop is planted, while the crop is growing or held in storage. Further analysis will be devoted to determining the most favorable time periods (if any) to contract and close out a hedge for wheat on the futures market.

³Sogn, op. cit., p. 16.

B. Hypotheses

Many questions such as the probable success of hedging hard red spring and winter wheat will be tested for validity and reliability. Historical evidence will be analyzed in an attempt to discover a trend of the effects for protein premiums on wheat market basis action. The hypotheses in this study are codified below.

1. Hard red spring and winter wheat, common to South Dakota and surrounding states, is an annually hedgable commodity for basis gain.
2. Hard red spring and winter wheat is hedgable for basis gain only after certain minimal criteria are found.
3. When protein premiums are included in cash price, South Dakota wheat is hedgable if a necessary hedging basis is recognized for each individual protein percent level.
4. Wheat marketing has indigenous factors peculiar to wheat pricing and the cash to futures relationship must be viewed differently than that of corn, oats and soybeans.

C. Review of Literature

The prospective trader can find a great amount of literature explaining how the futures market operates and how it may benefit his farm marketing operation. This information is readily available

from many sources. Almost every commodity exchange in the United States has a variety of pamphlets and brochures to distribute to the general public. Commodity brokerage firms can be excellent sources of information about how to buy and sell commodities on the futures market. In addition to the books that may be found in their libraries many colleges and universities have programs devoted to commodity market research.

A notable bulletin published by the University of Illinois, "Uses of Grain Futures Markets in the Farm Business" by T. A. Hieronymus, has significant value showing the number of ways that futures markets may be used to aid farm marketing operations.⁴ Studies conducted at South Dakota State University Economics Department have revealed that farmers have had many profit opportunities for marketing futures contracts for corn, oats and soybeans on the commodity markets.⁵ A thesis from North Dakota State University studied the influences of government commodity credit programs on the pricing of wheat.⁶ Those who desire a rather in-depth theoretical analysis of futures markets may find "Price

⁴T. A. Hieronymus, Uses of Grain Futures Markets in the Farm Business, Bulletin 696 (Urbana: University of Illinois Agricultural Experiment Station, September 1963).

⁵Sogn, loc. cit.

⁶Donald E. Thomson, "A Wheat Growing Hedge Strategy for Farmers" (unpublished Master's thesis, North Dakota State University, 1971).

Effects of Speculation in Organized Commodity Markets", published by the Food Research Institute of Stanford University, to be particularly helpful.⁷

Despite the great number of works devoted to studying the facets of the futures markets, there appears to be very little work devoted to studying the influences of protein premiums on the basis action for wheat.

D. Scope of Work

The analysis of alternative methods of marketing wheat will dwell on the historical records of the Kansas City Board of Trade and those of the Minneapolis Grain Exchange. This study and its conclusions are directly addressed to wheat farmers and local elevator managers residing in the mid-west in general and South Dakota in particular.

⁷Roger W. Gray et al., Food Research Institute Studies, Supplement to Volume VII (Stanford: Food Research Institute of Stanford University, 1967).

Chapter II

Introduction

A list of selected terms, common to commodity markets, is presented to help the reader become acquainted with the "market language". Several examples of hedging on the commodity exchanges will be given to show the ways in which one may use the futures market to aid his farm marketing operation. Corn, oats and soybeans will be used in these examples of hedging in an effort to provide a base for comparison with the relationship between wheat cash price and futures price.

A. The Commodity Market

The commodity market is similar to other auction markets. It is the exchange of ownership between buyers and sellers of commodities. Buyers seek to purchase commodities at the lowest possible price while sellers compete for the highest bid for their products. Commodity markets can be conveniently divided into two separate types; cash and futures.

A cash market implies the purchasing and selling of commodities for immediate delivery. Cash traders meet to examine the commodity and laboratory results to estimate its quality. When both parties agree to a price, transfer of ownership implies immediate delivery to an agreed upon location.

The futures market, also, is an auction-type whereby traders compete for futures contracts of designated grades which are deliverable within specified time periods in the future.⁸ However, it is not necessary to accept or make delivery of grain to satisfy a futures contract. One's position can be closed-out by the purchase or sale of an off-setting futures contract.⁹ No one should consider making and accepting delivery of grain unless he has had many years experience trading on the commodity exchanges.

B. The Commodity Exchanges

The most obvious service provided by the commodity exchanges is maintaining a meeting area where buyers and sellers can engage in trading. Seventeen commodity exchanges in the United States were providing facilities for trading approximately thirty-one commodities in 1966. Thus, a vital role in guiding the movement of approximately thirty-one commodities, largely agricultural products from producer to consumer is performed by the commodity exchanges.¹⁰

Membership varies from one commodity exchange to another but constitutes a privilege granted after thorough scrutiny by the membership committees of the individual exchanges. The membership is limited

⁸Paul S. Amidon et al., How to Market Grain, (Minneapolis: Minneapolis Grain Exchange, January 1958), pp. 14-15.

⁹Gary J. Zenz, Futures Trading and the Purchasing Executive, The National Association of Purchasing Management, July 1971, p. 6.

¹⁰University of Illinois College of Agriculture, Marketing Grain, (Chicago: Chicago Board of Trade, 1966), p. 7.

on each exchange and the total membership is changed only by special action of the exchange.¹¹ The exchanges are governed by officials elected by the exchange's membership. The daily operation of the exchange is supervised by the several committees charged with duties such as publicity, rules arbitration, business conduct, etc.¹²

C. Futures Contracts

The cash marketing system is reasonably familiar to farmers and elevator managers. Futures marketing which is more remote and complex will be covered in greater detail. A selected example will be presented of how a "future" might develop for a commodity such as wheat before discussing the significance of futures contracts. The demand for wheat is usually fairly constant from week to week during the year. Almost the entire wheat supply of the nation is realized during the one-hundred day harvest season beginning in mid-June and lasting until mid-September.¹³ Many producers deliver most of their wheat crop to the market during this harvest period. Grain buyers seldom have sufficient financing to buy nor do they have the space to store an entire year's grain harvest. There would be less of a market price gradient if buyers had sufficient financing to buy and store an entire year's grain harvest.¹⁴

¹¹Ibid.

¹²Ibid.

¹³Merrill Lynch, Pierce, Fenner & Smith Inc., How to Buy and Sell Commodities, January, 1972, p. 7.

¹⁴Ibid., pp. 3-6.

Industries that use wheat as a raw product usually need a steady flow of grain throughout the year. Before the advent of a futures market for agricultural commodities, flour millers for example, would purchase wheat during the harvest season at low prices. Later in the year, in order to stay in business, millers had to pay high premiums to obtain wheat. Low prices in the fall, followed by high prices in the spring led to widely fluctuating prices for both the miller and his customers. At times millers went out of production because either supplies of wheat were non-existent or price of existing supplies were too high. Problems caused by market glut during the fall harvest season and market shortages in the spring led to what we today call the futures market.¹⁵

Wheat buyers, particularly flour millers, found they could assure a rather stable supply of grain by offering to buy a certain grade of wheat to be delivered on a definite date in the future. Usually buyers of wheat offer higher prices for commodities to be delivered on a definite date in the future. For the producer, this contract for a higher price often represents compensation for storing grain until the buyer takes delivery at a specified time period in the future.¹⁶

¹⁵Ibid., p. 6.

¹⁶Chicago Board of Trade, The Market Place, 1966, pp. 2-6.

Futures markets reduce the handicap that processors would otherwise find themselves because they do not have storage space for an entire year's supply of grain needed by the firm. In addition, the buyer experiences fewer price fluctuations for the commodity, a benefit which is passed indirectly to the consumer in the form of stable prices.¹⁷

Many farmers engage in futures contracting outside the commodity exchange. For example, a farmer may need a pole building on his farm. The farmer agrees to pay 4,000 dollars to the contractor provided the building is completed in a certain specified time in the future, perhaps 120 days. The farmer pays 1,000 dollars as a down payment (margin on the commodity exchanges) and agrees to pay the balance when the pole building is finished. "The farmer and the building contractor have here entered into a futures contract."¹⁸

Several characteristics of a futures contract are suggested by the example above. First, the futures contract is a binding legal contract. The price and specifications of the commodity is stated on the contract along with the time period and place where delivery is to be made.

Typical futures contracts for wheat entail a standard unit of 5,000 bushels of grain. Delivery months for wheat futures contracts are July, September, December, March and May.

¹⁷ Amidon, op. cit., p. 19.

¹⁸ Ibid., p. 15.

D. Selected Terms Defined

A selected glossary of terms used by the commodity markets is listed in order that readers may have a better understanding of the ensuing discussion of hedging on the futures market. Although some terms which are used may have completely different meanings from one commodity exchange to another, the terms listed below are suggested for universal application by all commodity exchanges. The definitions to these terms will be submitted in a manner similar to those discussed in the "Commodity Trading Manual" published by the Chicago Board of Trade.¹⁹

1. Basis - the spread or difference between cash price and the price of the near futures. Near futures is the earliest available delivery month for currently tradable contracts.
2. Basis action - the degree of spread between cash price and futures market chosen for the hedge.
3. Cash market - a market in which transactions for immediate delivery are made.
4. Country elevator - elevator that procures its grain mainly from farmers.
5. Futures contract - a binding legal agreement to sell and deliver or buy and receive a specified nominal grade of commodity within a specific delivery period.
Some characteristics of the futures contract:
 - a. All contracts are made in "lots" of 5,000 bushels, except 10,000 bushel "lots" for oats.
 - b. Terms of contracts are standardized to expedite processing.

¹⁹Board of Trade of the City of Chicago, Commodity Trading Manual, 1966, pp. 173-184.

- c. A position may be offset by an opposite trade in the contract on the futures market. Furthermore, the offsetting contract need not be between the original buyers and sellers.
 - d. The prices are determined by the forces of supply and demand as reflected in the auction-type atmosphere of the "trading pit" on the exchange floor.
6. Grade - uniform "language" used to convey specific information about the quality of a commodity. Tests of grain's quality usually include test weight, soundness, cleanliness, dryness, purity of type and the general condition of the grain.
 7. Hedging - briefly stated, hedging on the futures markets consists in buying (or selling) futures contracts in the amount to which one is long (or short) the actual commodity usually the futures transaction. Hedgers thereby fix or protect a margin on their investment. The futures hedge is a temporary substitute for an ordinary cash transaction which will occur later. Hedging also provides opportunities for added profit.
 8. Long - the buying of futures contracts, or an indication of one having bought more than he has sold.
 9. Margin - an amount of money deposited by buyers and sellers of futures contracts, to insure performance on contract commitments. The money deposit serves as a bond for performance.
 10. Protein premium - price differential attributable to additional protein percentage.
 11. Short - the selling of futures contracts, or an indication of one having sold more than he has bought.
 12. Speculator - one who attempts to anticipate market price changes and through use of market activities try to make profits. One who does not hedge to protect a margin.
 13. Terminal elevator - a grain storage facility usually located near marketing centers for agricultural commodities. Example: Minneapolis.

E. Examples of Hedging

T. A. Hieronymus, Professor of Agricultural Marketing at University of Illinois, has suggested methods in which farmers can use the futures market: (1) to fix the price of a growing or not yet planted crop; (2) to fix the price of grain in storage for deferred delivery; (3) to speculate in the price of a crop that has been grown but for which storage is not available; (4) and to fix the cost of feed without taking immediate delivery.²⁰

Methods one and two above will be used as examples of how the futures market may provide alternative methods for marketing wheat by South Dakota producers. Method number three, suggested by Hieronymus, has not been considered because it assumes risk when speculating. The fourth method is not considered because it means trading in feed grains. In addition to preharvest sales, the latter of the first two methods above suggests four possibilities in which wheat producers can use the futures market: (1) to fix the price of grain held in storage for deferred delivery; (2) to protect against declining prices while anticipating a higher protein premium; (3) to fix the price of grain in anticipation of earning a storage payment and (4) a combination of previous possibilities No. (2) and No. (3).

Below, selected examples show how futures markets might benefit a farm marketing operation. Farmers may remember occasions when they

²⁰T. A. Hieronymus, Uses of Grain Futures Markets in the Farm Business, Bulletin 696 (Urbana: University of Illinois Agricultural Experiment Station, September 1963), p. 53.

would have considered selling their crop before it was harvested, possibly before it was even planted, if they could have been assured of a certain price. Arthur B. Sogn, Marketing Specialist at South Dakota State University Economics Department, has shown that farmers can successfully use the futures market to make preharvest sales for corn, oats and soybeans.²¹ To help avoid confusion, all the following examples presented in this chapter will depict Minneapolis cash market prices and Chicago Board of Trade futures market prices.

Example No. 1: Preharvest sale-crop is not yet planted.

1968-69 Corn Crop Year	
Cash Market	Futures Market
April 1, 1968	Sold Dec. futures contract for 5,000 bushels of corn on Chicago Board of Trade @ 127¢.
Nov. 1, 1968, Sold 5,000 bushels of corn on Minneapolis cash market @ 106 3/4¢.	Bought Dec. futures contract for 5,000 bushels of corn on Chicago Board of Trade @ 110 3/4¢.

Price received for corn equals 106 3/4¢ from sale on cash market and gain from futures market sale of 16 1/4¢ for a total of 123¢.

²¹Arthur B. Sogn, Farmer Use of Grain Futures, Bulletin 590 (Brookings: Agricultural Experiment Station, South Dakota State University, November 1971), pp. 8-9.

Example No. 2: Preharvest sale-crop is not planted.

1969-70 Oats Crop Year

Cash Market	Futures Market
April 1, 1969	Sold September futures contract for 5,000 bushels of oats on Chicago Board of Trade @ 68¢.
August 28, Sold 5,000 bushels of oats on Minneapolis cash market @ 60¢.	Bought September futures contract for 5,000 bushels of oats on Chicago Board of Trade @ 59¢.

Price received for oats equals 60¢ from sale on cash market and 9¢ gain from sale on futures market for a total of 69¢.

Example No. 3: Preharvest sale-crop is not planted.

1968-69 Soybean Crop Year

Cash Market	Futures Market
April 1, 1968	Sold September futures contract for 5,000 bushels of soybeans on Chicago Board of Trade @ 269 1/4¢.
August 15, 1968, Sold 5,000 bushels of soybeans on Minneapolis cash market @ 259 3/4¢.	Bought September futures contract for 5,000 bushels of soybeans on Chicago Board of Trade @ 255 3/4¢.

Price received for soybeans equals 259 3/4¢ from cash market sale and 13 1/2¢ gain from futures market sale for a total of 273 1/4¢.

Example No. 4: Preharvest sale-crop is growing.

1967-68 Corn Crop Year

Cash Market	Futures Market
July 14, 1967	Sold December futures contract for 5,000 bushels of corn on Chicago Board of Trade @ 124 1/4¢.
October 16, 1967, Sold 5,000 bushels of corn on Minneapolis cash market @ 114¢.	Bought December futures contract for 5,000 bushels of corn on Chicago Board of Trade @ 115¢.

Price received for corn equals 114¢ from sale on cash market and 9 1/4¢ gain on futures market sale for a total of 123 1/4¢.

Fixing the price of grain held in storage by hedging on the futures market while expecting to earn a storage payment is the next alternative marketing method to be considered. A basis hedge for stored grain is usually the most certain method for farmers and elevator managers to earn a storage payment while enjoying a reasonable degree of security from adverse price fluctuations. Economic benefits resulting from a successfully contracted basis hedge include the element of financing. Reasonable security from adverse price fluctuations enhances the prospects of obtaining larger loans from financial institutions. Those actively contracting on the futures market to establish hedges usually secure larger loans from financial institutions thereby enjoying greater amounts of operating capital for their businesses.²²

Farmers assume a basis hedge by simultaneously holding their cash crop in storage and selling a futures contract for an equal amount of grain. When the farmer decides to close out the basis hedge he simply assumes an opposite position in the futures market buying a contract equal in amount to that grain which he sold on the cash market. The elevator manager hedges in a manner similar to that of the farmer. The elevator manager buys grain, places it in storage and sells a futures contract for an equal amount of grain on the cash market. When the elevator manager decides to sell the stored

²²Chicago Board of Trade, Hedging Highlights, 1968, pp. 7-8.

grain on the cash market, he buys a futures contract thereby closing out the basis hedge and sells the stored grain on the cash market.²³

Corn is one of the most actively traded grains on the commodity exchanges and is one of the most universally grown feed grains.²⁴

For this reason, corn is the grain used in the selected examples which depict typical basis hedging opportunities for farmers and elevator managers.

Example No. 5: Basis hedge for stored grain.

1970-71 Corn Crop Year	
Cash Market	Futures Market
November 2, 1970, Stored 5,000 bushels of corn at present value @ 131 3/4¢ per bushel.	Sold May futures contract for 5,000 bushels of corn on Chicago Board of Trade @ 156 1/4¢.
February 1, Sold 5,000 bushels of corn on Minneapolis cash market @ 141 1/4¢.	Bought May futures contract for 5,000 bushels of corn on the Chicago Board of Trade @ 155 3/4¢.

Price received for corn equals 141 1/4¢ for sale of corn on cash market sale and 1/2¢ gain on futures market sale for a total of 141 3/4¢. This represents a gain of 10¢ per bushel for storing the corn from November 2 to February 1.

Example No. 5 shows the value of the basis hedge where the futures price remains constant and the cash price rises. The basis hedge, also, is very desirable method of protection against losses during periods when prices are declining as shown by Example No. 6.

²³ Amidon, op. cit., pp. 18-19.

²⁴ United States Department of Agriculture, News, July 1972, p. 2.

Example No. 6: Basis hedge for stored grain.

1966-67 Corn Crop Year

Cash Market	Futures Market
November 15, 1966, Stored 5,000 bushels of corn at present value @ 133¢ per bushel.	Sold July futures contract for 5,000 bushels of corn on Chicago Board of Trade @ 151¢.
April 25, 1967, Sold 5,000 bushels of corn on Minneapolis cash market @ 125 1/2¢.	Bought July futures contract for 5,000 bushels of corn on Chicago Board of Trade @ 132 3/4¢.

Price received for corn equals 125 1/2¢ from sale on cash market and a gain of 13 1/4¢ from futures market sale for a total of 143 3/4¢. The result of hedging in this particular year shows increased revenue despite declining cash market prices.

These examples of hedging suggest possible methods for marketing corn, oats and soybeans. These alternative methods of marketing will be analyzed when they are applied to the sale and storage of wheat in Chapter 3.

Chapter III

A. Preharvest Sales

Making a preharvest sale on the futures market may be advantageous for a grain producer. A farmer usually has about twelve months in which to establish a price for his wheat rather than joining government loan programs or limiting his marketing operation to mid-summer through late fall. A producer may sell a crop not yet planted or one that is still growing if he recognizes a satisfactory price offered on the futures market.

Farmers should estimate the size of wheat crop they anticipate to harvest. This estimate must be as accurate as a farmer's judgment and experience can produce. A producer would be best advised to make a preharvest sale only for that amount of grain he reasonably can expect to produce in a given crop year, subject to the limitation that futures contracts are made in "lots" of 5,000 bushels. Deliberately making a preharvest sale, which entails a quantity of wheat greater than a farmer would reasonably anticipate producing in a given year, is speculation.

Criteria that may suggest a preharvest sale includes a futures price that is above the prevailing government loan value or a price that a producer may recognize as being a satisfactory return for his particular farming operation. Once a farmer has made a preharvest

sale on the futures market, the price for his crop is fixed and is not subject to the prevailing price on the cash market as harvest season approaches.

Once the crop is harvested the farmer purchases an offsetting contract(s) on the futures market and sells grain on the cash market receiving the prevailing cash price and the gain or loss from the futures market transaction. Note: no one should attempt to make delivery of grain to fulfill a futures contract unless he has had many years experience trading on the commodity markets.

Futures contract prices and cash market prices offered for hard red spring and winter wheat on the Minneapolis Grain Exchange will be used in the analysis of preharvest sales opportunities. Reference can be made to this data compiled and presented in Table 3.1 on pages 21-22. In addition, the relationship between futures contract prices offered on the Kansas City Board of Trade and cash market prices offered on the Minneapolis Grain Exchange will be analyzed for preharvest sales opportunities. Refer to Table 3.2 on pages 31-32 for this compiled data.

In both cases above, the futures contract prices and cash market prices were those prevailing on the first and fifteenth days of the month. Although farmers possibly can choose among twelve trading months, this analysis will be limited to January 1 through September 1. Generally, September futures contracts are offered

Table 3.1
Preharvest Sales Opportunities,
Minneapolis Grain Exchange
Futures Market Prices and Cash Market Prices
(September Futures)

Month	1962		1963		1964		1965		1966	
	Futures	Cash	Futures	Cash	Futures	Cash	Futures	Cash	Futures	Cash
Jan. 1	*	233 1/4	*	232 1/8	*	231 1/8	*	181 3/4	167	172 1/2
Jan. 15	231	225 1/4	*	233 1/4	*	230 3/4	*	181	169 1/4	175 3/8
Feb. 1	233 1/4	237	*	231 5/8	*	226 1/2	*	181 1/8	169	177 5/8
Feb. 15	235	235 1/4	*	234	*	228 1/2	*	176 5/8	169 1/4	176 3/8
Mar. 1	234 3/4	235 1/2	*	235 1/8	*	226 3/8	*	179 1/2	168 1/2	174 3/4
Mar. 15	235	235 5/8	*	234 7/8	*	220 1/2	*	174 5/8	166 1/2	173 5/8
Apr. 1	236	234 1/2	*	235 5/8	*	222 1/2	*	175	166 3/4	170 7/8
Apr. 15	236 3/4	234 1/8	*	237 1/2	165	224 3/4	163 1/2	176 1/8	168 7/8	173 3/8
May 1	238 5/8	238 1/4	*	237 5/8	171 3/8	232 5/8	161 7/8	174 1/4	171 3/8	177 5/8
May 15	237 3/4	236 3/8	217 3/8	233 3/4	168	227	159 7/8	178	173 1/2	179 1/4
June 1	233 7/8	231 3/8	216 1/2	233 3/4	169 1/2	232 1/4	159 1/2	171 1/2	162 1/8	183 5/8
June 15	235 1/4	235 3/4	217 3/4	242 3/4	167 7/8	216 7/8	158 3/4	175 3/4	185 3/4	188 3/4
July 1	234 7/8	230 7/8	218 1/8	233 1/8	163 5/8	171 5/8	160 5/8	175 5/8	194 1/2	197 1/2
July 15	236 1/4	236 3/4	212 3/4	224 3/4	161 1/2	172 1/2	160 1/4	184 1/4	203 3/4	205 3/4
Aug. 1	236 3/8	233 3/8	211 3/8	212 3/8	161	162	161 1/2	174 1/2	198 1/4	200 1/4
Aug. 15	233 1/8	230 1/8	213	213	164 1/4	162 1/4	165 1/4	171 1/4	204 1/2	206 1/2
Sept. 1	231 3/8	234 3/8	220 3/4	222 3/4	169 1/2	175 1/2	172 1/8	173 1/8	200 3/4	205

*Figures unavailable

Cash market prices represent ordinary protein percent level.

Table 3.1 (continued)

Month	1967		1968		1969		1970		1971		1972	
	Futures	Cash	Futures	Cash	Futures	Cash	Futures	Cash	Futures	Cash	Futures	Cash
Jan. 1	183 1/4	188 5/8	*	158 1/8	156 3/8	158 1/4	*	170 3/8	*	163 3/4	*	155
Jan. 15	178	191 3/8	167 1/4	162 3/8	156	158	165 1/4	174 5/8	175	171 1/4	*	154 3/4
Feb. 1	175 1/4	185	168	161 1/4	157	159 1/2	165 3/8	169 1/2	169	164 5/8	*	151 3/4
Feb. 15	177 1/4	189 1/2	168 1/4	160	156 1/2	156 1/4	168	170 1/4	166 1/2	163 3/8	*	152 1/4
Mar. 1	185 1/4	191 5/8	168 3/8	162 1/2	156 3/4	157 1/4	168	168 5/8	167 1/2	163 1/2	*	150 5/8
Mar. 15	192 1/2	198 7/8	172 1/2	163 7/8	157 7/8	157 5/8	166 1/4	167 5/8	165 1/8	160 5/8	*	151 3/8
Apr. 1	187 7/8	196 1/4	170	164 5/8	156	155 5/8	166 3/8	170 5/8	163 3/4	158 1/2	*	153 5/8
Apr. 15	182 7/8	191 3/4	163 1/2	160 1/2	157 3/8	157 3/8	168 3/4	173 5/8	166	160 5/8	159	151 1/2
May 1	184 5/8	199	161 7/8	160 1/2	156 1/8	155 5/8	168 1/8	172 5/8	161 7/8	155 1/8	158	152 3/4
May 15	184 3/8	200 5/8	162 5/8	161 3/8	155 1/2	155 5/8	166	169 5/8	160 3/8	155 3/4	155 1/2	151 1/2
June 1	182 3/8	199 1/2	157 1/2	154 7/8	152 7/8	152 1/8	166 3/4	170 1/2	164	154 1/4	154 1/2	150 5/8
June 15	174 5/8	189 5/8	154 7/8	153 7/8	151 5/8	153 1/4	165 3/4	173	167 1/2	160 5/8	154 3/2	147 5/8
July 1	168 1/2	179 1/2	153 1/4	153 1/4	150 1/4	153 1/4	165 3/8	168 3/8	164 1/8	153 1/8	153 1/2	153 1/2
July 15	168 1/4	167 1/4	151 7/8	146 7/8	153 3/8	157 3/8	167 3/8	170 3/8	161 3/8	150 3/8	161 3/4	152 5/8
Aug. 1	172 1/4	185 1/4	151 1/8	143 1/8	154	152	172 5/8	172 5/8	155 1/2	152 1/2	167 1/8	164
Aug. 15	173 3/8	172 3/8	154 1/4	145	154 1/2	152 1/2	174 1/2	172 3/2	154 1/8	151 1/8	179 1/4	168 1/4
Sept. 1	173 1/4	165 1/8	154 7/8	149 7/8	159 5/8	157 5/8	183 1/4	182 3/8	154 3/4	152 3/4	195	185

*Figures unavailable

Cash market prices represent ordinary protein percent level.

Sources:

"Closing Comparisons", Daily Market Record [Minneapolis, Minnesota], January 1, 1968 through September 1, 1972.

Kansas City Board of Trade. Annual Statistical Report. 6 vols. 1962-1972.

Minneapolis Grain Exchange. Annual Report. 9 vols. 1962-1970.

"Today's Prices", Farmers Union Grain Terminal Association [Minneapolis, Minnesota], March 1, 1968 through September 1, 1972.

during January and many farmers are planning for the new crop year. The September futures market generally reflects the new crop of wheat that has been realized throughout the summer and early fall. Also, many farmers sell grain at harvest time, therefore, a September futures delivery month would provide time for purchasing offsetting futures contract(s) at prevailing prices and selling grain on the cash market. 1962 through 1972 will provide data for the eleven most recent crop years.

The significant amount of cash price variation arbitrarily chosen for the following analysis of preharvest sales is five cents. Anytime a preharvest sale using the futures market results in a harvest season price within five cents of the target price, the futures markets are considered to be performing satisfactorily. A preharvest sale that produced a total cash price five cents a bushel less than target price, still may be performing in a satisfactory manner but will be treated separately in this study. Conversely, a preharvest sale that produces five cents a bushel more than target price, which would be an acceptable variation to the trader, will also be noted separately in the test of futures prices for wheat as a reliable means of making preharvest sales.

B. Selected Analyses of Preharvest Sales Opportunities:
Minneapolis Grain Exchange
Futures Market Prices and Cash Market Prices,
1962-1972 Hard Red Spring and Winter Wheat Crop Years

Table 3.1 reveals for ten of eleven crop years analyzed (except year 1971), the prevailing cash price offered on a particular date from January 1 through July 1 is significantly above or approximately equal to the September futures contract price offered on the Minneapolis Grain Exchange. Cash market prices, from January to July, reflect the price of stored wheat from past harvests and the September futures market prices reflect new wheat crop prices. As the harvest season progresses, cash prices will be influenced by the new crop and begin to graduate toward the level of September futures market prices. Closer inspection of Table 3.1 will show that sometime during July 15-September 1, for each of the eleven crop years, the cash market price and September futures market price will nearly approximate each other. Furthermore, Table 3.1 shows eight of eleven crop years (except years 1966, 1970 and 1972) witnessed significantly decreased futures and cash prices for wheat at some point during July 15-September 1.

The farmer who sold a futures contract sometime during January 1 through July 1 would be able to buy back an offsetting futures contract sometime during July 15 through September 1 for approximately the same price or a lower price in all crop years except 1966, 1970

and 1972. A sale of a futures contract for a price the producer finds satisfactory during January 1 through July 1 followed by a timely purchase of a futures contract during July 15 through September 1 would result in a significant gain from the futures market transaction in six of the eight years above (1962, 1963, 1964, 1967, 1968 and 1971). This gain from the futures market transaction can be applied to the cash market price received for a cash sale at the prevailing market price during July 15 to September 1, thereby partially or completely offsetting the cash market price decrease that may have occurred from January 1 through September 1. Timely transactions on the futures market during the years 1965 and 1969 would result in approximately zero gain or loss, still protecting sale price of the futures contract sold (which the farmer originally found satisfactory) sometime during January 1 through July 1.

Some producers may feel the futures market failed in years 1966, 1970 and 1972 when wheat prices rose in the fall and farmers are left with approximately the lower futures contract price established earlier in the season. The futures market has produced approximately that price the farmer originally decided was satisfactory. If the farmer makes a preharvest sale for a satisfactory price he then foregoes speculating for higher prices in the fall. The September wheat futures were higher at harvest time than the preceding spring only three out of eleven years studied. By judicious contracting on

the futures market a producer may have been able to assure within five cents a target price he recognizes as satisfactory for his crop in each of the eleven crop years in this analysis.

The following selected examples show: (1) crop year in which a preharvest sale of a futures contract during January 1 through July 1 would assure approximately a desired price despite both falling cash market and futures market prices; (2) crop year in which a preharvest sale of a futures contract during January 1 to June 15 will assure approximately the target price when both cash market and futures contract during January 1 to June 15 would partially offset a decline in cash market prices realized during July 15 to September 1 and (4) crop year when a sale of a futures contract during January 1 to July 1 would have assured a price greater than that desired earlier in the crop year.

Example No. 1: Preharvest sale-falling cash and futures market prices.

1967-68 Wheat Crop Year

Cash Market	Futures Market
March 15, 1967 farmer decides 190¢ per bushel would be a satisfactory price for his 1967 wheat crop.	Farmer sells futures contract for 5,000 bushels of wheat @ 192 1/2¢.
August 15, 1967 farmer sells 5,000 bushels of wheat on Minneapolis cash market @ 172 3/8¢.	Farmer purchases offsetting futures contract for 5,000 bushels of wheat on the Minneapolis Grain Exchange @ 173 3/8¢.

Price received for wheat equals 172 3/8¢ from cash sale and 18 1/2 ¢ gain from futures market transaction for a total of 190 1/2¢.

Example No. 1 shows how a farmer may use the futures market to assure a price for his crop that was found to be satisfactory months in advance of harvest despite declining futures market and cash market prices as harvest season progresses.

Example No. 2: Preharvest sale-rising cash and futures market prices.

1970-71 Wheat Crop Year

Cash Market	Futures Market
March 1, 1970 farmer decides 168¢ per bushel would be a satisfactory price for his 1968 wheat crop.	Farmer sells futures contract for 5,000 bushels of wheat on the Minneapolis Grain Exchange @168¢.
September 1, 1970 farmer sells 5,000 bushels of wheat on Minneapolis cash market @ 182 3/8¢.	Farmer purchases offsetting futures contract for 5,000 bushels of wheat on the Minneapolis Grain Exchange @ 183 1/4¢.

Price received for wheat equals 182 3/8¢ from cash sale and 15 1/4¢ loss from futures market transaction for a total of 167 1/8¢ per bushel.

Example No. 2 is an example of how the futures market assures approximately that price which was originally found to be satisfactory despite the rising price for wheat as harvest season progressed.

Example No. 3: Preharvest sale-cash and futures market prices are declining.

1962-63 Wheat Crop Year

Cash Market	Futures Market
February 15, 1962 farmer decides 235¢ per bushel would be a satisfactory price for his 1962 wheat crop.	Farmer sells futures contract for 5,000 bushels of wheat on Minneapolis Grain Exchange @ 235¢.
August 15, 1962 farmer sells 5,000 bushels of wheat on Minneapolis cash market @ 230 1/8¢.	Farmer purchases offsetting futures contract for 5,000 bushels of wheat on the Minneapolis Grain Exchange @ 233 1/8¢.

Price received for wheat equals 230 1/8¢ cash price and 1 7/8¢ gain from futures market transaction for a total of 232¢.

Example No. 3 shows how a preharvest sale on the futures market resulted with a farmer regaining part of the loss on the cash market due to decrease in price. Once again the futures market has made it possible for a producer to receive a total cash price within five cents of what he originally found satisfactory.

Example No. 4: Preharvest sale-cash and futures market prices are declining.

1964-65 Wheat Crop Year

Cash Market	Futures Market
March 15, 1964 farmer decides 170¢ would be a satisfactory price for 1964 wheat crop.	Farmer sells 5,000 bushel futures contract on Minneapolis Grain Exchange @ 171 3/8¢.
September 1, 1964 farmer sells 5,000 bushels of wheat on Minneapolis Grain Exchange @ 175 1/2¢.	Farmer purchases offsetting futures contract for 5,000 bushels of wheat on Minneapolis Grain Exchange @ 169 1/2¢.

Price received for wheat equals 175 1/2¢ from cash market sale and 1 7/8¢ gain on futures market transaction for a total of 177 3/8¢.

Example No. 4 shows how a preharvest sale on the futures market may result in a higher price for wheat than was originally considered satisfactory. The reader may construct examples in addition to those shown that may pertain to his particular farm marketing program. Judicious use of the futures market will assure approximately the desired price on a preharvest sale if the producer decides he is satisfied with the prevailing future contract price offered between January 1 through July 1.

C. Selected Analyses of Preharvest Sales Opportunities:
Kansas City Board of Trade Futures Market Prices,
Minneapolis Grain Exchange Cash Market Prices,
1962-1972 Hard Red Winter Wheat Crop Years

The relationship between Kansas City Board of Trade futures market prices and Minneapolis Grain Exchange cash market prices will be analyzed to determine preharvest sales opportunities for winter wheat producers. Futures contracts for winter wheat is the principal commodity traded on the Kansas City Board of Trade.²⁵

The relevant cash market for South Dakota wheat producers is the Minneapolis cash market. The amount of additional expense involved in transporting wheat to another cash market usually will offset any cash price benefits that may accrue from a sale on a cash market other than the one located in Minneapolis.

²⁵Merrill Lynch, Pierce, Fenner & Smith, Inc., How to Buy and Sell Commodities, January 1972, p. 32.

Table 3.2 reveals a situation similar to the relationship of Minneapolis Grain Exchange futures market prices to cash market prices found in Table 3.1. The Minneapolis Grain Exchange cash market prices for winter wheat are higher than the Kansas City Board of Trade futures prices from January 1 through July 1 for every year included in the analysis.

During eight of eleven wheat crop years (1962, 1963, 1964, 1965, 1967, 1968, 1969 and 1971), cash market prices declined significantly by some date July 15 through September 1. By some date July 15 through September 1, prices of futures contracts had declined or remained approximately equal to those of January 1 through July 1 in nine of eleven (except years 1966 and 1972) wheat crop years.

Farmers still can benefit from a preharvest sale when cash market prices are higher than futures contract prices during the above nine years. Anytime an offsetting futures contract can be purchased for an amount less than that originally received for a sale of a futures contract, a producer will realize a gain from the futures market transaction. This gain from the futures market transactions is applied to the price received from the cash market sales regardless of whether the cash market prices were higher or lower than the futures market price. Thus, for nine of eleven wheat crop years, a farmer making a judicious preharvest sale January 1 through July 1 could have received a total cash price approximating or higher than the cash market price prevailing July 15 through September 1.

Table 3.2
 Preharvest Sales Opportunities,
 Kansas City Board of Trade Futures Market Prices,
 Minneapolis Grain Exchange Cash Market Prices
 (September Futures)

Month	1962		1963		1964		1965		1966	
	Futures	Cash	Futures	Cash	Futures	Cash	Futures	Cash	Futures	Cash
Jan. 1	211 3/8	233 1/4	192	232 1/8	171 7/8	231 1/8	149 1/4	181 3/4	157 1/8	172 1/2
Jan. 15	210 1/8	235 1/4	194 1/8	233 1/4	173 3/8	230 3/4	143 5/8	181	157 1/2	175 3/8
Feb. 1	210 3/4	237	196 3/8	231 5/8	170	226 1/2	150	181 1/8	155	177 5/8
Feb. 15	210 1/2	235 1/4	196 1/2	234	169 1/4	228 1/2	149	176 5/8	156	176 3/8
Mar. 1	211	235 1/2	197 1/8	235 1/8	164 3/8	226 3/8	148 7/8	179 1/2	154 5/8	174 3/4
Mar. 15	210 5/8	235 5/8	195 5/8	234 7/8	161 5/8	220 1/2	146 7/8	174 5/8	154 1/4	173 5/8
Apr. 1	211 7/8	234 1/2	197 1/2	235 5/8	161 3/8	222 1/2	146 3/8	175	153 3/4	170 7/8
Apr. 15	214 1/4	234 1/8	197	237 1/2	159	224 3/4	146 3/8	176 1/8	156 1/4	173 3/8
May 1	214 3/4	230 1/4	198 1/2	237 5/8	158 7/8	232 5/8	144 5/8	174 1/4	153 3/8	177 5/8
May 15	218	236 3/8	197 5/8	233 3/4	158 1/4	227	144	178	165 1/8	179 1/4
June 1	216 1/4	231 3/8	195 1/8	233 3/4	157 1/2	232 1/4	141 3/4	171 1/2	175 5/8	183 5/8
June 15	217 1/4	235 3/4	199	242 3/4	154 1/8	216 7/8	141 1/8	175 3/4	178 7/8	180 3/4
July 1	216 1/2	230 7/8	196 1/2	233 1/8	149 5/8	171 5/8	143 1/4	175 5/8	185 1/4	197 1/2
July 15	217 3/8	236 3/4	192 3/4	224 3/4	149 7/8	172 1/2	143 1/4	184 1/4	193	205 3/4
Aug. 1	216 1/8	233 3/8	192	212 3/8	150 3/8	162	147 3/4	174 1/2	191 3/8	200 1/4
Aug. 15	212 1/8	230 1/8	194 1/4	213	153 1/8	168 1/4	153 5/8	171 1/4	192 5/8	206 1/2
Sept. 1	213 3/4	234 3/8	196 1/4	222 3/4	154 1/8	175 1/2	154 1/2	173 1/8	188 3/4	206

*Figures unavailable

Cash market prices represent ordinary protein percent level.

Table 3.2 (continued)

Month	1967		1968		1969		1970		1971		1972	
	Futures	Cash	Futures	Cash	Futures	Cash	Futures	Cash	Futures	Cash	Futures	Cash
Jan. 1	175 7/8	188 5/8	*	158 1/8	135 1/2	158 1/4	136 5/8	170 3/8	154 1/2	163 3/4	142 5/8	155
Jan. 15	172 1/4	191 3/8	*	162 5/8	137 1/2	158	135 1/8	174 5/8	155	171 1/4	142 5/8	154 3/4
Feb. 1	166 3/4	185	*	161 1/4	137 3/4	159 1/2	134 7/8	169 1/2	152 1/2	164 5/8	139 3/8	151 3/4
Feb. 15	168 3/4	189 1/2	153 7/8	160	137 3/4	156 1/4	136 1/4	170 1/4	150 3/8	163 3/8	142 3/4	152 1/4
Mar. 1	180	191 5/8	*	162 1/2	136	157 1/4	136 5/8	168 5/8	147 1/4	163 1/2	145 1/2	150 5/8
Mar. 15	187 1/4	198 7/8	*	163 7/8	136 7/8	157 5/8	136 3/4	167 5/8	148	160 5/8	148	151 3/8
Apr. 1	180 1/4	196 1/4	152 1/2	164 5/8	133 7/8	155 5/8	135 1/8	170 5/8	144 5/8	158 1/2	146 3/4	153 5/8
Apr. 15	175 1/8	191 3/4	147 5/8	160 1/2	134 7/8	157 3/8	136 1/4	173 5/8	151	160 5/8	150 1/2	151 1/2
May 1	173	199	146 1/2	160 1/2	133 1/8	155 5/8	136 5/8	172 5/8	145 5/8	155 1/8	142 3/8	152 3/4
May 15	176 3/4	200 5/8	146 7/8	161 3/8	134 5/8	155 5/8	132 3/8	169 5/8	144 3/8	155 3/4	147 1/4	151 1/2
June 1	174 3/4	199 1/2	145 1/4	154 7/8	131 1/4	152 1/8	131 1/8	170 1/2	149 1/2	154 1/4	146 1/2	150 5/8
June 15	164 1/4	189 5/8	139 7/8	153 7/8	129 1/8	153 1/4	133 3/4	173	151 5/8	160 5/8	143 5/8	143 5/8
July 1	158 3/4	179 1/2	135 1/2	153 1/4	125 3/4	153 1/4	132 5/8	168 3/8	148 3/8	153 1/8	143	146
July 15	156 1/8	187 1/4	134 1/4	146 7/8	125 1/4	157 3/8	134	170 3/8	146 7/8	150 3/8	156	151 5/8
Aug. 1	155 3/4	185 1/4	132 7/8	143 1/8	123 7/8	152	138 5/8	172 5/8	143 3/8	152 1/2	158 3/8	158 1/8
Aug. 15	151 3/4	172 3/8	131 1/4	145	127 1/2	152 1/2	142 1/8	172 1/2	144 5/8	151 1/8	182	159 1/4
Sept. 1	148	165 1/8	126 1/8	149 7/8	129 1/2	157 5/8	148 1/4	182 3/8	144 1/8	152 3/4	150 1/8	178

*Figures unavailable

Cash market prices represent ordinary protein percent level.

Sources:

"Closing Comparisons", Daily Market Record [Minneapolis, Minnesota], January 1, 1963 through September 1, 1972.

Kansas City Board of Trade. Annual Statistical Report. 6 vols. 1962-1972.

Minneapolis Grain Exchange. Annual Report. 9 vols. 1962-1970.

"Today's Prices", Farmers Union Grain Terminal Association [Minneapolis, Minnesota], March 1, 1968 through September 1, 1972.

Both cash market and futures market prices increased significantly for years 1966 and 1972. In spite of this situation, the farmer who made a preharvest sale during January 1 through July 1 would have realized during July 15 through September 1 a total cash price in excess of the price he originally recognized as satisfactory when he sold the futures contract on the Kansas City Board of Trade.

Comparing Table 3.1 with 3.2 will show for every year included in the analysis, Minneapolis Grain Exchange futures market prices usually are higher on the same date than those futures market prices of the Kansas City Board of Trade throughout the eight-month period. Many producers would consider the futures market prices offered on the Minneapolis Grain Exchange as being more appealing than the lower futures market prices prevailing on the Kansas City Board of Trade.

As the harvest seasons progressed, both Tables 3.1 and 3.2 show eight of eleven years (1962, 1963, 1964, 1965, 1967, 1968, 1969 and 1971) when cash prices declined. Kansas City Board of Trade futures market prices declined during July 15 through September 1 from the high futures market price established January 1 through July 1 in all eight crop years above. Farmers making judicious preharvest sales on the Kansas City Board of Trade during the above years would have gained on the futures market transactions. This gain could have been added to the prevailing Minneapolis Grain Exchange cash market price received when a farmer sold wheat during July 15 through September 1.

Futures market and cash market prices offered on the Kansas City Board of Trade increased during the period July 15 through September 1, 1966, 1970 and 1972. After the loss from the futures market transactions on the Kansas City Board of Trade has been subtracted from the prevailing cash price during July 15 through September 1, the producer could have received a cash price that approximates the cash price received after concluding an offsetting futures market transaction on the Minneapolis Grain Exchange for 1966, 1970 and 1972 crop years.

When comparing the relationship of the Minneapolis Grain Exchange cash market prices with Kansas City Board of Trade futures market prices, it appears as if preharvest sales on the Kansas City Board of Trade would have resulted in total cash market prices approximating or greater than total cash market prices received when making a preharvest sale on the Minneapolis Grain Exchange in nine of eleven crop years (1962, 1963, 1964, 1965, 1966, 1967, 1968, 1969, 1970 and 1972). Keep in mind the farmer with the lower futures market prices of the Kansas City Board of Trade during January 1 through July 1. After purchasing an offsetting futures contract during July 15 through September 1, the total cash market price received approximates or is greater than that received by the farmer making a preharvest sale on the Minneapolis Grain Exchange.

The following examples show: (1) wheat crop year when a preharvest sale would lead to a greater total cash price than that originally recognized as satisfactory despite declining cash and

futures market prices as harvest season progresses and (2) wheat crop year for which a preharvest sale would result in a greater total cash price when cash and futures market prices increase as harvest season progresses.

Example No. 1: Preharvest sale-cash and futures market prices are declining.

1967-68 Wheat Crop Year

Cash Market	Futures Market
March 15, 1967 farmer decides 187¢ per bushel would be a satisfactory price for his 1967 wheat crop.	Farmer sells futures contract for 5,000 bushels of wheat on the Kansas City Board of Trade @ 187 1/4¢.
August 15, 1967 farmer sells 5,000 bushels of wheat on Minneapolis cash market @ 172 3/8¢.	Farmer purchases futures contract for 5,000 bushels of wheat on Kansas City Board of Trade @ 151 3/4¢.

Price received for winter wheat equals 172 3/8¢ from cash market sale and 35 1/2¢ gain on futures market transactions for total of 207 7/8¢.

Example No. 2: Preharvest sale-cash and futures market prices are increasing. Crop is not yet planted.

1970-71 Wheat Crop Year

Cash Market	Futures Market
March 1, 1970 farmer decides 136¢ is the best price he can expect for 1970 wheat crop in light of the amount of carryover from 1969 harvest and expected size of new crop.	Farmer sells futures contract for 5,000 bushels of wheat on Kansas City Board of Trade @ 136 5/8¢.
September 1, 1970 farmers sells 5,000 bushels of wheat on Minneapolis cash market @ 182 3/8¢.	Farmer purchases futures contract for 5,000 bushels of wheat @ 148 1/4¢ on the Kansas City Board of Trade.

Price received for winter wheat crop equals 182 3/8¢ from cash market sale and 11 5/8¢ loss on the futures market transactions for a total of 170 3/4¢.

Example No. 3: Preharvest sale-cash market and futures market prices are declining as harvest season progresses.

1962-63 Wheat Crop Year

Cash Market	Futures Market
February 15, 1962 farmer decides 210¢ per bushel would be a satisfactory price for his 1962 wheat crop.	Farmer sells futures contract for 5,000 bushels of wheat on Kansas City Board of Trade @ 210 1/2¢.
August 15, 1962 farmer sells 5,000 bushels of wheat on Minneapolis cash market @ 230 1/8¢.	Farmer purchases futures contract for 5,000 bushels of wheat on Kansas City Board of Trade @ 212 1/8¢.

Price received equals 230 1/8¢ and 1 5/8¢ loss on futures market transactions for a total of 228 1/2¢.

Example No. 4: Preharvest sale-cash market and futures market prices are declining as harvest season progresses.

1964-65 Wheat Crop Year

Cash Market	Futures Market
March 15, 1964 farmer decides 161¢ per bushel would be a satisfactory price for 1964 wheat crop.	Farmer sells 5,000 bushel futures contract for wheat on Kansas City Board of Trade @ 161 5/8¢.
September 1, 1964 farmer sells 5,000 bushels wheat on Minneapolis cash market @ 175 1/2¢.	Farmer purchases offsetting futures contract for 5,000 bushels of wheat on Kansas City Board of Trade @ 154 1/8¢.

Price received for winter wheat equals 175 1/2¢ from sale on cash market and 7 1/2¢ gain on futures market transaction for a total of 183¢.

Two of four examples (Nos. one and four) showed a significant gain from the preharvest sales on the Kansas City Board of Trade.

Example No. 3 depicted a preharvest sale and offsetting futures market transaction resulting in a price approximating that originally considered satisfactory by the producer. Example No. 2 shows a loss

on the futures market transaction but total cash market price was greater than the price the farmer originally considered satisfactory earlier in the crop year.

D. Hedging

Wheat producers and elevator managers may use the futures market to pursue four alternative ways of establishing prices for hard red spring and winter wheat: (1) to fix the price of grain held in storage for deferred delivery; (2) to protect against a price drop while anticipating a higher protein premium for stored wheat; (3) to fix the price of grain in anticipation of earning a storage payment and (4) a combination of previous possibilities No. (2) and No. (3).

Once a farmer or elevator manager has established a hedge for the stored wheat, he can purchase offsetting futures contract(s) any market day prior to the delivery time period specified in the futures contract. This analysis will assume a hypothetical situation whereby a farmer or elevator manager establishes a hedge on the futures market for a minimum of two months. All hypothetical examples of hedging included in this analysis are established and closed out on the first day of the selected months.

Either producers or elevator managers should make careful estimates to assure there is no great discrepancy between the amount of grain represented by futures contracts sold and the amount of wheat that one has available or expects to have available. Selling

futures contracts for a greater quantity of grain than one has available is speculation. On the other hand, failing to hedge all available grain is also a form of speculation.

A gain of five cents or more has been arbitrarily selected as that significant amount representing the completion of a successful hedge for stored wheat. It appears as if any amount less than five cents, even a hedge established for a few days, would hardly justify the cost of insurance for the stored grain, brokerage fees, a return for storage and other expenses.

Several tables have been included throughout the analysis of hedging hard red spring and winter wheat. The tables show the degree of variation in basis action (zero represents no change in basis), between the beginning and ending dates of the selected hypothetical hedges on the futures market. The variation, of basis action, is listed for six selected protein percent levels. Figures preceded by minus signs represents situations in which the variation in basis action depicts a widening of the relationship between cash market and futures market prices from the date the hedge was established and when the hedge was terminated. Conversely, figures not preceded by signs represent situations whereby the variance in basis action depicts a narrowing of the relationship between cash market and futures market prices from the time the hedge was established and when the hedge was terminated.

E. Selected Analyses of Hedging Hard Red Spring Wheat,
Minneapolis Grain Exchange
Futures Market Prices and Cash Market Prices,
1962-1971 Crop Years

The analyses of hedging hard red spring wheat will be based on December futures market data of the Minneapolis Grain Exchange. These data cover the time period September 1 through December 1, of years 1962-1971. These data have been compiled and included in the Appendix on pages 75-105.

The new hard red spring wheat crop is usually realized by September 1. Many farmers have made decisions either to deliver spring wheat to the cash market or to store the grain and deliver it at a later date. Also, many elevator managers have had an opportunity to assess the wheat harvest and are usually ready to implement their plans for marketing and storage.

The December futures contract was selected for two reasons: (1) grain retained in storage can be hedged on the December futures market for upwards of three months and (2) December is the last month of navigation on the Great Lakes Waterway System. The latter reason is of great importance because the Great Lakes Waterway System is an important method for transporting wheat.²⁶

Table 3.3, page 41, shows the variance of basis action for new crop spring wheat. The wheat was stored and hedged for two months, September 1

²⁶Hieronimus, T. A., "Uses of Grain Futures Markets in the Farm Business", University of Illinois Agricultural Experiment Station, Bulletin 696, September, 1963, p. 53.

to November 1, years 1962 through 1971. Ten years combined with six selected protein percent levels equals sixty possibilities for hedging wheat. The farmer or elevator manager who would have established a hedge every year on September 1 and terminated it on November 1, would have realized significant gains (assumed to be five cents or more) from the futures transactions in five of sixty possible hedging opportunities. Note the incidence of hedges with significant gains are confined to one wheat crop year and dispersed almost the complete range of protein percent levels.

Table 3.4, page 42, includes figures representing variance of basis action during September 1-December 1. Placing a three-month hedge for spring wheat starting September 1 would produce significant returns in four of sixty possibilities listed. In this type of hedge significant gains were confined to the higher protein percent levels.

The results of establishing a hedge October 1 and terminating it on December 1, are listed in Table 3.5, page 43. The greatest incidence of significant gains from this hedging alternative are found in the higher protein percent levels. Also, five of eight significant gains were confined to crop years, 1966 and 1968. The reader is encouraged to construct many additional examples spanning a few days to a few months. Cash market prices and futures market prices are included in the Appendix, pages 75-105.

Table 3.3
 Variation of Basis Action for Spring Wheat,
 Minneapolis Grain Exchange,
 Cash Market Prices and Futures Market Prices,
 Hedging Period: September 1-November 1

	1962	1963	1964	1965	1966	1967	1968	1969	1970	1971	5¢ or more	Less than 5¢
10% Protein	-4 7/8	-1 5/8	3/4	-4 1/4	-6	1 1/4	-5 1/4	- 1/8	5 1/4	- 3	1	9
12% Protein	-5 7/8	- 5/8	-1 1/4	-4 1/4	-6	1 1/4	-5 1/4	1 7/8	3 1/4	- 5	0	10
13% Protein	-5 7/8	-1 5/8	-2 1/4	-5 1/4	-6	1/4	-2 1/4	1 7/8	8 1/4	- 6	1	9
14% Protein	-5 7/8	- 5/8	-3 1/4	-6 1/4	-6	-4 3/4	-2 1/4	2 7/8	6 1/4	- 7	1	9
15% Protein	-6 7/8	3/8	-2 1/4	-5 1/4	-7	-8 3/4	-5 1/4	3 7/8	6 1/4	- 4	1	9
16% Protein	3 1/8	1 3/8	-3 1/4	-12 1/4	-7	-7 3/4	-8 1/4	1 1/8	7 1/4	-10	1	9
									Totals		5	55

Sources:

"Closing Comparisons", Daily Market Record [Minneapolis, Minnesota], January 1, 1968 through September 1, 1972.

Kansas City Board of Trade. Annual Statistical Report. 6 vols. 1962-1972.

Minneapolis Grain Exchange. Annual Report. 9 vols. 1962-1970.

"Today's Prices", Farmers Union Grain Terminal Association [Minneapolis, Minnesota], March 1, 1968 through September 1, 1972.

Table 3.4
 Variation of Basis Action for Spring Wheat,
 Minneapolis Grain Exchange,
 Cash Market Prices and Futures Market Prices,
 Hedging Period: September 1-December 1

	1962	1963	1964	1965	1966	1967	1968	1969	1970	1971	5¢ or more	Less than 5¢
10% Protein	1/8	0	-1 1/8	-3 1/4	-3 1/4	-1	-4 3/5	-1 1/8	4 5/8	- 6	0	10
12% Protein	- 7/8	1	-2 1/8	-3 1/4	-3 1/4	-1	-3 3/8	7/8	5/8	- 8	0	10
13% Protein	1/8	0	-2 1/8	-4 1/4	-3 1/4	-2	5/8	7/8	-2 5/8	- 9	0	10
14% Protein	- 7/8	3	-2 1/8	-7 1/4	-2 1/4	-5	1 5/8	1 7/8	-2 5/8	-10	0	10
15% Protein	-3 7/8	5	-1 1/8	-6 1/4	-2 1/4	-5	3 5/8	3 7/8	4 5/8	- 3	1	10
16% Protein	8 1/8	7	-1 1/8	-4 1/4	-2 1/4	-5	- 3/8	- 1/8	7 5/8	- 4	3	7
									Totals		<u>4</u>	<u>56</u>

Sources:

"Closing Comparisons", Daily Market Record [Minneapolis, Minnesota], January 1, 1968 through September 1, 1972.

Kansas City Board of Trade. Annual Statistical Report. 6 vols. 1962-1972.

Minneapolis Grain Exchange. Annual Report. 9 vols. 1962-1970.

"Today's Prices", Farmers Union Grain Terminal Association [Minneapolis, Minnesota], March 1, 1968 through September 1, 1972.

Table 3.5
 Variation of Basis Action for Spring Wheat,
 Minneapolis Grain Exchange,
 Cash Market Prices and Futures Market Prices,
 Hedging Period: October 1-December 1

	1962	1963	1964	1965	1966	1967	1968	1969	1970	1971	5¢ or more	Less than 5¢
10% Protein	2	5/8	-1 7/8	0	3 3/4	-3 1/4	7/8	-1	-1 5/8	-10	0	10
12% Protein	1	5/8	-1 7/8	0	3 3/4	- 1/4	1 7/8	1	-3 5/8	-12	0	10
13% Protein	2	5/8	- 7/8	-1	3 3/4	-1 1/4	3 7/8	1	-7 5/8	- 7	0	10
14% Protein	1	2 5/8	1/8	-5	4 3/4	-2 1/4	6	1	-4 5/8	- 4	1	9
15% Protein	1	3 5/8	1/8	-4	5 3/4	-1 1/4	9	2	-5 5/8	2	2	8
16% Protein	12	4 5/8	2	5	5 3/4	- 1/4	8 7/8	7	- 5/8	4	5	5
Totals											8	52

Sources:

"Closing Comparisons", Daily Market Record [Minneapolis, Minnesota], January 1, 1968 through September 1, 1972.

Kansas City Board of Trade. Annual Statistical Report. 6 vols. 1962-1972.

Minneapolis Grain Exchange. Annual Report. 9 vols. 1962-1970.

"Todays Prices", Farmers Union Grain Terminal Association [Minneapolis, Minnesota], March 1, 1968 through September 1, 1972.

F. Selected Analyses of Hedging Hard Red Winter Wheat,
Minneapolis Grain Exchange
Futures Market Prices and Cash Market Prices,
1962-1971 Crop Years

The following selected analysis of hedging hard red winter wheat will be based on December futures market data of the Minneapolis Grain Exchange. The analysis will cover time period August 1 through December 1, of years 1962-1971. The above data has been compiled and included in the Appendix on pages 75-105.

Generally, the new hard red winter wheat crop is realized by August 1. Many farmers have either delivered winter wheat to the cash market or have stored grain for deferred delivery. Many elevator managers have not had an opportunity to assess the scale of harvest for all wheat types by August 1. Despite this situation, one may assume the quality, amount and marketing considerations for winter wheat will influence an elevator manager's marketing and storage plans.

The December futures contract was selected for the same principal reasons stated on the bottom of page 39. However, producers and elevator managers may establish a hedge on the December futures market upwards of four months by establishing a hedge on August 1.

Significant gains from hedging were present at the extreme protein percent levels shown in Table 3.6, page 46. Five of sixty possibilities, hedging wheat August 1 through October 1, resulted in significant gains but represented four different wheat crop years (1965, 1967, 1969 and 1970).

The incidence of significant gains from hedging wheat August 1- November 1 were present the entire range of protein percent levels. Also, Table 3.7 page 47, indicates five wheat crop years (1964, 1965, 1967, 1969 and 1970) had at least one occurrence of hedges producing a significant gain.

Table 3.8, page 48, displays opportunities for hedging stored wheat during four months, August 1-December 1. Again, opportunities for significant gains from hedging were fairly evenly distributed the range of protein percent levels. These eleven opportunities were present during five wheat crop years (1964, 1965, 1966, 1969 and 1970).

Significant gains from hedges established September 1 and terminated November 1 were present in five of the six selected protein percent levels. The eleven opportunities included in Table 3.9, page 49, were found in three separate wheat crop years (1963, 1969 and 1970). Note: a producer concerned with protecting his stored wheat against adverse price fluctuations would have realized satisfactory hedges for all six selected protein levels in years 1963 and 1970.

Sixteen of sixty possible hedging opportunities would have resulted in significant gains during September 1 to December 1. Of four wheat crop years (1963, 1965, 1969, and 1970), producing opportunities for significant gains by hedging, Table 3.10, page 50, indicates 1963, 1965 and 1970 displayed opportunities to establish satisfactory hedges for all six selected protein percent levels to protect against adverse price changes for wheat.

Table 3.6
Variation of Basis Action for Winter Wheat,
Minneapolis Grain Exchange,
Cash Market Prices and Futures Market Prices,
Hedging Period: August 1-October 1

	1962	1963	1964	1965	1966	1967	1968	1969	1970	1971	5¢ or more	Less than 5¢
10% Protein	2 7/8	-3 7/8	-8 5/8	7 5/8	-5 1/8	5 5/8	-3 7/8	2 1/8	-1 1/4	- 1/4	2	8
12% Protein	-4 1/8	-3 7/8	-6 5/8	5/8	-5 1/8	2 5/8	-4 7/8	2 1/8	-1 1/4	3/4	0	10
13% Protein	-5 1/8	-3 7/8	-5 5/8	2 5/8	-5 1/8	3/8	-7 7/8	1/8	1 3/4	- 1/4	0	10
14% Protein	-4 1/8	-3 7/8	-5 5/8	2 5/8	-4 1/8	-3 3/8	-9 7/8	1/8	4 3/4	-1 1/4	0	10
15% Protein	-5 1/8	-6 7/8	-5 5/8	1 5/8	-3 1/8	-4 3/8	-6 7/8	-1 7/8	7 3/4	-2 1/4	1	10
16% Protein	-6 1/8	-7 1/8	-5 5/8	- 3/8	-2 1/8	-6 3/8	-6 7/8	9 1/8	6 3/4	- 1/4	2	8
Totals											5	55

Sources:

"Closing Comparisons", Daily Market Record [Minneapolis, Minnesota], January 1, 1968 through September 1, 1972.

Kansas City Board of Trade. Annual Statistical Report. 6 vols. 1962-1972.

Minneapolis Grain Exchange. Annual Report. 9 vols. 1962-1970.

"Todays Prices", Farmers Union Grain Terminal Association [Minneapolis, Minnesota], March 1, 1968 through September 1, 1972.

Table 3.7
 Variation of Basic Action for Winter Wheat,
 Minneapolis Grain Exchange,
 Cash Market Prices and Futures Market Prices,
 Hedging Period: August 1-November 1

	1962	1963	1964	1965	1966	1967	1968	1969	1970	1971	5¢ or more	Less than 5¢	
10% Protein	2 7/8	-3 7/8	6 5/8	7 5/8	-3 1/8	7 5/8	- 4	- 7/8	-1 1/4	- 3 1/4	3	7	
12% Protein	- 6 1/8	- 7/8	4 5/8	5/8	-3 1/8	5 1/8	- 5	2 1/8	1 3/4	- 2 1/4	1	9	
13% Protein	- 7 1/8	- 7/8	4 5/8	2 5/8	-3 1/8	1 5/8	- 8	3 1/8	7 3/4	- 4 1/4	1	9	
14% Protein	-11 1/8	- 7/8	4 5/8	2 5/8	-2 1/8	-4 3/8	-10	6 1/8	8 3/4	- 4 1/4	2	8	
15% Protein	-15 1/8	-3 7/8	4 5/8	1 5/8	-1 1/8	-5 3/8	- 7	1/8	8 3/4	-10 1/4	1	9	
16% Protein	-19 1/8	-3 7/8	4 5/8	- 3/8	- 1/8	-6 3/8	- 7	9 1/8	6 3/4	- 7 1/4	2	8	
											Totals	10	50

Sources:

"Closing Comparisons", Daily Market Record [Minneapolis, Minnesota], January 1, 1968 through September 1, 1972.

Kansas City Board of Trade. Annual Statistical Report. 6 vols. 1962-1972.

Minneapolis Grain Exchange. Annual Report. 9 vols. 1962-1970.

"Today's Prices", Farmers Union Grain Terminal Association [Minneapolis, Minnesota], March 1, 1968 through September 1, 1972.

Table 3.8
Variation of Basis Action for Winter Wheat,
Minneapolis Grain Exchange,
Cash Market Prices and Futures Market Prices,
Hedging Period: August 1-December 1

	1962	1963	1964	1965	1966	1967	1968	1969	1970	1971	5¢ or more	Less than 5¢	
10% Protein	2 7/8	-4 1/4	-8 1/2	11 5/8	-4 3/8	8 1/8	- 4	- 7/8	3 1/8	3/4	2	8	
12% Protein	- 5 1/8	-1 1/4	-6 1/2	4 5/8	-4 3/8	4 1/8	- 5	2 1/8	2 1/8	- 1/4	0	10	
13% Protein	- 6 1/8	-1 1/4	-6 1/2	6 5/8	-5 3/8	2 1/8	- 8	3 1/8	9 1/8	- 1/4	2	8	
14% Protein	-10 1/8	-1 1/4	-6 1/2	6 5/8	-3 3/8	-2 5/8	-10	6 1/8	10 1/8	-2 1/4	3	7	
15% Protein	-14 1/8	-4 1/4	-6 1/2	5 5/8	-1 3/8	-5 5/8	- 7	1 1/8	11 1/8	-8 1/4	2	8	
16% Protein	-18 1/8	-4 1/4	-6 1/2	3 5/8	- 3/8	-6 5/8	- 7	9 1/8	14 3/8	-7 1/4	2	8	
											Totals	11	49

Sources:

"Closing Comparisons", Daily Market Record [Minneapolis, Minnesota], January 1, 1968 through September 1, 1972.

Kansas City Board of Trade. Annual Statistical Report. 6 vols. 1962-1972.

Minneapolis Grain Exchange. Annual Report. 9 vols. 1962-1970.

"Today's Prices", Farmers Union Grain Terminal Association [Minneapolis, Minnesota], March 1, 1968 through September 1, 1972.

Table 3.9
 Variation of Basis Action for Winter Wheat,
 Minneapolis Grain Exchange,
 Cash Market Prices and Futures Market Prices,
 Hedging Period: September 1-November 1

	1962	1963	1964	1965	1966	1967	1968	1969	1970	1971	5¢ or more	Less than 5¢
10% Protein	1/8	1 3/8	- 1/4	1 3/4	-5	-1 3/4	-1 1/4	- 1/8	1/4	-3 3/8	0	10
12% Protein	- 4 7/8	9 3/8	- 1/4	- 1/4	-5	- 2 3/4	1 3/4	- 1/8	5 1/4	-3 3/8	2	8
13% Protein	- 5 7/8	9 3/8	-1 1/4	1 3/4	-5	- 6 3/4	-2 1/4	2 7/8	12 1/4	-4 3/8	2	8
14% Protein	-10 7/8	9 3/8	-1 1/4	1 3/4	-5	-11 3/4	-2 1/4	5 7/8	11 1/4	-3 3/8	3	7
15% Protein	-13 7/8	9 3/8	-1 1/4	1 3/4	-5	-11 3/4	-2 1/4	1 7/8	10 1/4	-8 3/8	2	8
16% Protein	-16 7/8	9 3/8	-1 1/4	1 3/4	-5	-12 3/4	-2 1/4	- 1/8	8 1/4	-7 3/8	2	8
Totals											11	49

Sources:

"Closing Comparisons", Daily Market Record [Minneapolis, Minnesota], January 1, 1968 through September 1, 1972.

Kansas City Board of Trade. Annual Statistical Report. 6 vols. 1962-1972.

Minneapolis Grain Exchange. Annual Report. 9 vols. 1962-1970.

"Today's Prices", Farmers Union Grain Terminal Association [Minneapolis, Minnesota], March 1, 1968 through September 1, 1972.

Table 3.10
Variation of Basis Action for Winter Wheat,
Minneapolis Grain Exchange,
Cash Market Prices and Futures Market Prices,
Hedging Period: September 1-December 1

	1962	1963	1964	1965	1966	1967	1968	1969	1970	1971	5¢ or more	Less than 5¢
10% Protein	1/8	1	-2 1/8	5 3/4	-6 1/4	- 1 1/4	-1 1/4	- 1/8	4 5/8	5/8	1	9
12% Protein	- 3 7/8	9	-2 1/8	3 3/4	-6 1/4	- 4 1/4	1 3/4	- 1/8	5 5/8	-1 3/8	2	8
13% Protein	- 4 7/8	9	-3 1/8	5 3/4	-6 1/4	- 6 1/4	-2 1/4	2 7/8	12 5/8	- 3/8	3	7
14% Protein	- 9 7/8	9	-3 1/8	5 3/4	-6 1/4	-10	-2 1/4	5 7/8	12 5/8	-1 3/8	4	6
15% Protein	-12 7/8	9	-3 1/8	5 3/4	-5 1/4	-12	-2 1/4	2 7/8	12 5/8	-6 3/8	3	7
16% Protein	-15 7/8	9	-3 1/8	5 3/4	-5 1/4	-13	-2 1/4	- 1/8	12 5/8	-7 3/8	3	7
									Totals		16	44

Sources:

"Closing Comparisons", Daily Market Record [Minneapolis, Minnesota], January 1, 1968 through September 1, 1972.

Kansas City Board of Trade. Annual Statistical Report. 6 vols. 1962-1972.

Minneapolis Grain Exchange. Annual Report. 9 vols. 1962-1970.

"Today's Prices", Farmers Union Grain Terminal Association [Minneapolis, Minnesota], March 1, 1968 through September 1, 1972.

Table 3.11
 Variation of Basis Action for Winter Wheat,
 Minneapolis Grain Exchange,
 Cash Market Prices and Futures Market Prices,
 Hedging Period: October 1-December 1

	1962	1963	1964	1965	1966	1967	1968	1969	1970	1971	5¢ or more	Less than 5¢
10% Protein	0	- 3/8	-8 1/2	4	3/4	2 1/2	-1/8	0	4 3/8	1	0	10
12% Protein	- 1	2 5/8	-6 1/2	4	3/4	1 1/2	-1/8	0	3 3/8	-1	0	10
13% Protein	- 1	6 5/8	-6 1/2	4	3/4	2 1/2	-1/8	3	7 3/8	0	2	8
14% Protein	- 6	2 5/8	-6 1/2	4	3/4	3/4	-1/8	6	5 3/8	-1	2	8
15% Protein	- 9	2 5/8	-6 1/2	4	1 3/4	-1 1/4	-1/8	3	3 3/8	-6	0	10
16% Protein	-12	2 5/8	-6 1/2	4	1 3/4	-1 1/4	-1/8	0	4 3/8	-7	0	10
Totals											4	56

Sources:

"Closing Comparisons", Daily Market Record [Minneapolis, Minnesota], January 1, 1968 through September 1, 1972.

Kansas City Board of Trade. Annual Statistical Report. 6 vols. 1962-1972.

Minneapolis Grain Exchange. Annual Report. 9 vols. 1962-1970.

"Today's Prices", Farmers Union Grain Terminal Association [Minneapolis, Minnesota], March 1, 1968 through September 1, 1972.

Farmer and elevator managers who established a hedge for stored wheat October 1 and terminated it December 1 would have realized significant returns in four of sixty hedging possibilities, according to information presented in Table 3.11, page 51. The four instances of significant returns were divided evenly between two protein percent levels. The thirteen percent and fourteen percent protein levels are located in the middle of the range of six selected protein levels. Some examples prior to this have shown that opportunities for significant gains from hedging were distributed at either extreme of the selected protein percent levels.

G. Selected Analyses of Hedging Hard Red Winter Wheat,
Kansas City Board of Trade Futures Market Prices,
Minneapolis Grain Exchange Cash Market Prices,
1962-1971 Crop Years

The relationship between cash market data, of the Minneapolis Grain Exchange and futures market data of the Kansas City Board of Trade, will be analyzed for hedging opportunities that would have resulted in significant gains for farmers and elevator managers who stored wheat. The following selected analysis will be conducted in a manner similar to those in sections E and F of this chapter. The analysis will cover the time period August 1 through September 1, crop years 1962-1971. As in the prior analysis, wheat will be hedged on the December futures market.

Farmers and elevator managers who established a hedge August 1 to October 1, would have realized significant gains for three of sixty

hedging possibilities. Table 3.12, page 54, shows these opportunities occurred in the higher protein percent levels during the year 1970.

Four of sixty hedging possibilities August 1 through November 1 would have resulted in significant gains for farmers and elevator managers. The incidence of the four hedges resulting in significant gains occurred in 1965 and 1970 crop years according to the Table 3.13, page 55.

Table 3.14, page 56, presents evidence of hedging opportunities that would have resulted in significant gains for thirteen of sixty opportunities. The occurrence, of hedges resulting in significant gains, were distributed fairly evenly the range of protein percent levels. Wheat crop years 1965 and 1970 showed favorable results from hedging almost the entire range of protein percent levels.

The incidence of significant gains, from hedging stored wheat September 1 to November 1, occurred in eight of sixty opportunities. These eight hedging opportunities were present in all protein percent levels particularly those in the middle of the range. Table 3.15, page 57, indicates crop year 1963 apparently presented producers and elevator managers with favorable results from hedging stored wheat the entire range of protein percent levels.

Table 3.16, page 58, displays eighteen of sixty opportunities for hedging stored wheat during three months, September 1-December 1. The number of hedges, resulting in significant gains, were distributed evenly over the range of protein percent levels. Apparently, farmers

Table 3.12
 Variation of Basis Action for Winter Wheat,
 Kansas City Board of Trade Futures Market Prices,
 Minneapolis Grain Exchange Cash Market Prices,
 Hedging Period: August 1-October 1

	1962	1963	1964	1965	1966	1967	1968	1969	1970	1971	5¢ or more	Less than 5¢
10% Protein	- 1/2	-6	-12 3/4	4 7/8	-12 3/8	2 1/2	- 8	-2 1/2	- 3/8	1/8	0	10
12% Protein	-7 1/2	-6	-10 3/4	-2 1/8	-12 3/8	- 1/2	- 9	-2 1/2	- 3/8	1 1/8	0	10
13% Protein	-6 1/2	-6	- 9 3/4	- 1/8	-12 3/8	-3 1/2	-12	-4 1/2	2 5/8	1/8	0	10
14% Protein	-7 1/2	-6	- 9 3/4	- 1/8	-11 3/8	-6 1/2	-14	-4 1/2	5 5/8	- 7/8	1	9
15% Protein	-8 1/2	-9	- 9 3/4	-1 1/8	-10 3/8	-7 1/2	-11	3 1/2	3 5/8	-1 7/8	1	9
16% Protein	-9 1/2	-9	- 9 3/4	-3 1/8	-11 3/8	-8 1/2	-11	4 1/2	7 5/8	1/8	1	9
									Totals		3	57

Sources:

"Closing Comparisons", Daily Market Record [Minneapolis, Minnesota], January 1, 1968 through September 1, 1972.

Kansas City Board of Trade. Annual Statistical Report. 6 vols. 1962-1972.

Minneapolis Grain Exchange. Annual Report. 9 vols. 1962-1970.

"Today's Prices", Farmers Union Grain Terminal Association [Minneapolis, Minnesota], March 1, 1968 through September 1, 1972.

Table 3.13
 Variation of Basis Action for Winter Wheat,
 Kansas City Board of Trade Futures Market Prices,
 Minneapolis Grain Exchange Cash Market Prices,
 Hedging Period: August 1-November 1

	1962	1963	1964	1965	1966	1967	1968	1969	1970	1971	5¢ or more	Less than 5¢
10% Protein	2 1/4	1	-8 1/4	9 3/8	-6 1/4	4 3/8	-9 7/8	-3 3/4	-4 1/2	-1 1/8	1	9
12% Protein	-6 3/4	4	-6 1/4	2 3/8	-6 1/4	2 3/8	-10 7/8	-3 3/4	-1 1/2	7/8	0	10
13% Protein	-7 3/4	4	-5 1/4	4 3/8	-6 1/4	-1 5/8	-13 7/8	-2 3/4	5 1/2	-1 1/8	1	9
14% Protein	-11 3/4	4	-6 1/4	4 3/8	-5 1/4	-7 5/8	-15 7/8	1/4	5 1/2	-1 1/8	1	9
15% Protein	-15 3/4	1	-6 1/4	3 3/8	-4 1/4	-8 5/8	-12 7/8	4 1/4	5 1/2	-7 1/8	1	9
16% Protein	-19 3/4	-1	-6 1/4	1 3/8	-3 1/4	-9 5/8	-12 7/8	3 1/4	3 1/2	-4 1/8	0	10
									Totals		4	56

Sources:

"Closing Comparisons", Daily Market Record [Minneapolis, Minnesota], January 1, 1968 through September 1, 1972.

Kansas City Board of Trade. Annual Statistical Report. 6 vols. 1962-1972.

Minneapolis Grain Exchange. Annual Report. 9 vols. 1962-1970.

"Today's Prices", Farmers Union Grain Terminal Association [Minneapolis, Minnesota], March 1, 1968 through September 1, 1972.

Table 3.14
 Variation of Basis Action for Winter Wheat,
 Kansas City Board of Trade Futures Market Prices,
 Minneapolis Grain Exchange Cash Market Prices,
 Hedging Period: August 1-December 1

	1962	1963	1964	1965	1966	1967	1968	1969	1970	1971	5c or more	Less than 5c
10% Protein	3 3/8	- 5/8	-9 1/4	12 3/4	-4 1/2	8 1/8	- 7 1/8	-9 1/4	5	3/4	3	7
12% Protein	- 4 5/8	2 3/8	-7 1/4	5 3/4	-4 1/2	4 1/8	- 8 1/8	-8 1/4	4	- 1/4	1	9
13% Protein	- 5 5/8	2 3/8	-7 1/4	7 3/4	-4 1/2	2 1/8	-11 1/8	-7 1/4	11	- 1/4	2	3
14% Protein	- 9 5/8	2 3/8	-7 1/4	7 3/4	-3 1/2	-2 7/8	-13 1/8	-4 1/4	12	-2 1/4	2	8
15% Protein	-13 5/8	- 5/8	-7 1/4	6 3/4	-1 1/2	-5 7/8	-10 1/8	-1 1/4	13	8 1/4	2	8
16% Protein	-17 5/8	- 5/8	-7 1/4	4 3/4	- 1/2	-6 7/8	-10 1/8	-1 1/4	13	7 1/4	2	8
Totals											<u>12</u>	<u>43</u>

Sources:

"Closing Comparisons", Daily Market Record [Minneapolis, Minnesota], January 1, 1963 through September 1, 1972.

Kansas City Board of Trade. Annual Statistical Report. 6 vols. 1962-1972.

Minneapolis Grain Exchange. Annual Report. 9 vols. 1962-1970.

"Today's Prices", Farmers Union Grain Terminal Association [Minneapolis, Minnesota], March 1, 1968 through September 1, 1972.

Table 3.15
 Variation of Basis Action for Winter Wheat,
 Kansas City Board of Trade Futures Market Prices,
 Minneapolis Grain Exchange Cash Market Prices,
 Hedging Period: September 1-November 1

	1962	1963	1964	1965	1966	1967	1968	1969	1970	1971	5c or more	Less than 5c
10% Protein	- 2 1/2	7 3/4	1 5/8	4 7/8	-3 3/8	2 1/4	1/4	-6 1/4	-5 5/8	2 1/4	1	9
12% Protein	- 7 1/2	15 3/4	1 5/8	4 7/8	-3 3/8	1 1/4	-3 1/4	-6 1/4	- 5/8	2 1/4	1	9
13% Protein	- 8 1/2	15 3/4	5/8	4 7/8	-3 3/8	-2 3/4	- 3/4	-3 1/4	6 3/8	1 1/4	2	8
14% Protein	-13 1/2	15 3/4	5/8	4 7/8	-3 3/8	-7 3/4	- 3/4	- 1/4	5 3/8	2 1/4	2	8
15% Protein	-16 1/2	15 3/4	5/8	4 7/8	-3 3/8	-7 3/4	- 3/4	-4 1/4	4 3/8	-2 3/4	1	9
16% Protein	-19 1/2	15 3/4	5/8	4 7/8	-3 3/8	-8 3/4	- 3/4	-6 1/4	2 3/8	-1 3/4	1	9
Totals											8	52

Sources:

"Closing Comparisons", Daily Market Record [Minneapolis, Minnesota], January 1, 1968 through September 1, 1972.

Kansas City Board of Trade. Annual Statistical Report. 6 vols. 1962-1972.

Minneapolis Grain Exchange. Annual Report. 9 vols. 1962-1970.

"Today's Prices", Farmers Union Grain Terminal Association [Minneapolis, Minnesota], March 1, 1968 through September 1, 1972.

Table 3.16
Variation of Basis Action for Winter Wheat,
Kansas City Board of Trade Futures Market Prices,
Minneapolis Grain Exchange Cash Market Prices,
Hedging Period: September 1-December 1

	1962	1963	1964	1965	1966	1967	1968	1969	1970	1971	5c or more	Less than 5c
10% Protein	- 1 3/8	6 1/8	5/8	8 1/4	-1 5/8	6	2 3/4	-11 3/4	3 7/8	3 1/8	3	7
12% Protein	- 5 3/8	14 1/8	5/8	8 1/4	-1 5/8	3	5 3/4	-10 3/4	4 7/8	1 1/8	3	7
13% Protein	- 6 3/8	14 1/8	-3/8	8 1/4	-1 5/8	1	1 3/4	- 7 3/4	11 7/8	2 1/8	3	7
14% Protein	-11 3/8	14 1/8	-3/8	8 1/4	-1 5/8	-3	1 3/4	- 4 3/4	11 7/8	1 1/8	3	7
15% Protein	-14 3/8	14 1/8	-3/8	8 1/4	- 5/8	-5	1 3/4	- 7 3/4	11 7/8	-3 7/8	3	7
16% Protein	-17 3/8	14 1/8	-3/8	8 1/4	- 5/8	-6	1 3/4	-10 3/4	11 7/8	-4 7/8	3	7
Totals											<u>18</u>	<u>42</u>

Sources:

"Closing Comparisons", Daily Market Record [Minneapolis, Minnesota], January 1, 1968 through September 1, 1972.

Kansas City Board of Trade. Annual Statistical Report. 6 vols. 1962-1972.

Minneapolis Grain Exchange. Annual Report. 9 vols. 1962-1970.

"Today's Prices", Farmers Union Grain Terminal Association [Minneapolis, Minnesota], March 1, 1968 through September 1, 1972.

Table 3.17
Variation of Basis Action for Winter Wheat,
Kansas City Board of Trade Futures Market Prices,
Minneapolis Grain Exchange Cash Market Prices,
Hedging Period: October 1-December 1

	1962	1963	1964	1965	1966	1967	1968	1969	1970	1971	5¢ or more	Less than 5¢
10% Protein	3 7/8	5 3/8	3 1/2	7 7/8	7 7/8	5 5/8	5/8	-6 3/4	5 3/8	5/8	5	5
12% Protein	2 7/8	8 3/8	3 1/2	7 7/8	7 7/8	4 5/8	5/8	-5 3/4	4 3/8	-1 3/8	3	7
13% Protein	7/8	8 3/8	2 1/2	7 7/8	7 7/8	5 5/8	5/8	-2 3/4	8 3/8	- 3/8	5	5
14% Protein	-2 1/8	8 3/8	2 1/2	7 7/8	7 7/8	3 5/8	5/8	1/4	6 3/8	-1 3/8	4	6
15% Protein	-5 1/8	8 3/8	2 1/2	7 7/8	8 7/8	1 5/8	5/8	-2 3/4	4 3/8	-6 3/8	3	7
16% Protein	-8 1/8	8 3/8	2 1/2	7 7/8	8 7/8	1 5/8	5/8	-5 3/4	5 3/8	-7 3/8	4	6
Totals											<u>24</u>	<u>36</u>

Sources:

"Closing Comparisons", Daily Market Record [Minneapolis, Minnesota], January 1, 1968 through September 1, 1972.

Kansas City Board of Trade. Annual Statistical Report. 6 vols. 1962-1972.

Minneapolis Grain Exchange. Annual Report. 9 vols. 1962-1970.

"Today's Prices", Farmers Union Grain Terminal Association [Minneapolis, Minnesota], March 1, 1968 through September 1, 1972.

Apparently, farmers and elevator managers, would have enjoyed favorable results from hedging during crop years 1963, 1965 and 1970.

Variances of bases action from October 1 to December 1, are displayed in Table 3.17, page 59. The hedging opportunities resulting in significant gains were distributed fairly evenly throughout the range of protein percent levels. Producers and elevator managers, apparently, could have had favorable results from hedging during crop years 1963, 1965, 1966 and to a lesser degree 1970.

H. Selected Analysis of Short-Term Hedging

A short-term hedge may be used to establish the price of a commodity while it is in transit or in storage. The short-term hedge is available for anyone desiring to protect the price of a commodity for a short period of time. An example of the above situation might include elevator managers who want to protect the price of a commodity for the few days required to transport it from his country elevator to either a terminal elevator or a processor.

Generally, a short-term hedge will assure that price or margin a elevator manager originally recognized as satisfactory. During a short-term hedge, usually, the futures market prices and cash market prices vary in the same direction by similar amounts from day to day, thereby fixing the price of the commodity. Short-term hedging examples for upwards of two weeks can be constructed by referring to the futures market prices, cash market prices and basis data included in the

Appendix. Two week, short-term hedges show little to zero variation in basis action. This situation indicates opportunities for short-term hedgers to assure approximately that price originally considered satisfactory for the commodity while it is in transit or in storage.

Usually, over the long run, futures market prices and cash market prices will vary by unequal amounts indicating a variation in basis action.²⁷ This shows the difference between the intent of a short-term hedge versus the intent of a long-term basis hedge. A short-term hedge is established to protect against a price drop in order to assure a desired cash price or margin. Little to zero variation in basis action is desirable for a successful short-term basis hedge. Usually, a long-term basis hedge establishes a price for a commodity that is to be delivered in the future. Also, one may establish a long-term basis hedge in anticipation of earning a storage payment.

Assume an elevator manager in Eastern South Dakota established a short-term hedge to protect the price of a car load of wheat sent

²⁷ Arthur B. Sogn, Farmer Use of Grain Futures, Bulletin 590 (Brookings: Agricultural Experiment Station, South Dakota State University, November 1971), p. 9.

to the Minneapolis cash market. The hypothetical example is presented in T-account form below:

Cash Market	Futures Market
October 15, cash price equals 175¢ per bushel for wheat.	Sold futures contract for wheat at 180¢ per bushel.
October 20, sold wheat on cash market for 172¢ per bushel.	Bought futures contract for wheat at 177¢ per bushel.

The cash price received by the elevator manager equals 172¢ from the cash market sale and 3¢ gain from futures market transactions for a total of 175¢. The elevator manager used the short term hedge to establish the prevailing price offered October 15, for his wheat.

Chapter IV

Summary and Conclusions

A. Summary

This study was devoted to analyzing alternative methods of marketing hard red spring and winter wheat. This objective was pursued by analyzing the use of commodity futures markets to attain a maximum price for wheat while incurring minimum speculation. A price can be established before the crop is planted, while the crop is growing or held in storage. The study and conclusions were addressed to wheat farmers and local elevator managers residing in the midwest in general and South Dakota in particular.

Compiled historical data from the Minneapolis Grain Exchange and Kansas City Board of Trade was analyzed to determine opportunities for preharvest sales and hedging of hard red spring and winter wheat. The cash market prices and futures market prices from the Minneapolis Grain Exchange and Kansas City Board of Trade cover the time period 1962 through 1972 wheat crop years. Brief descriptions of commodity markets and examples of hedging were included for the reader's consideration.

The analysis of preharvest sales opportunities for wheat was divided into three areas. First, Minneapolis cash market prices and Minneapolis futures market prices were analyzed to determine preharvest sales opportunities for hard red spring wheat. Minneapolis

futures market prices and Minneapolis cash market prices were analyzed to determine preharvest sales opportunities for winter wheat. The third analysis of preharvest sales opportunities involved the relationship between Kansas City futures market and Minneapolis cash market prices for winter wheat. The selected examples of preharvest sales were established on various dates and time periods. These preharvest sales opportunities were analyzed to determine if a satisfactory preharvest sale was due to the particular date on which a sale was initiated.

The selected analysis of hedging hard red spring wheat was pursued by studying the relationships between futures market prices and cash market prices prevailing on the Minneapolis Grain Exchange. Also, futures market price and cash market price relationships of the Minneapolis Grain Exchange were analyzed to determine hedging opportunities for winter wheat. The third selected analysis for hedging winter wheat involved the relationship between Kansas City futures market prices and Minneapolis cash market prices. Time periods for hedging were varied two, three and four months. Selected hedging opportunities were established during different time periods to ascertain either length of time periods for hedging or establishing a hedge on a particular date would result in significant gains.

B. Conclusions

The futures market appears to provide some alternative methods for marketing hard red spring and winter wheat. For example, making

a preharvest sale on the futures market may be advantageous for a grain producer. A farmer may sell a crop not yet planted or one that is still growing if he recognizes a satisfactory price offered on the futures market. The significant amount of either cash market price or futures market price variation arbitrarily chosen for the analysis of preharvest sales was five cents. Anytime a preharvest sale using the futures market results in a harvest season cash price within five cents of the target price the futures markets were considered to be performing satisfactorily.

Section B, of Chapter III, is the Selected Analysis of Preharvest Sales Opportunities offered on the Minneapolis Grain Exchange for crop years 1962-1972. Timely preharvest sales for wheat on a futures market could have produced harvest season prices, that would have approximated or shown a significant gain over those prices originally considered to be satisfactory when the futures market sale was made. This was evident for each of the eleven crop years in Table 3.1. Cash prices declined by a significant amount as the wheat crop year progressed during eight of eleven crop years analyzed. A judicious preharvest sale during January 1-July 1 followed by a purchase of offsetting futures contract(s) could

have assured a higher total price for each of these eight crop years. Cash prices for wheat rose by a significant amount as the crop year progressed during three of eleven crop years. The futures market did not fail in the above three wheat crop years but would have assured approximately that price farmers originally considered satisfactory.

Section C of Chapter III, Selected Analysis of Preharvest Sales Opportunities for Winter Wheat on the Kansas City futures market, shows that a judicious preharvest sale would have resulted in a harvest season price approximately equal to or greater than that originally considered satisfactory by the producer. January 1-July 15, the futures market prices offered for wheat on the Kansas City Board of Trade for any particular date were usually lower than those offered on the Minneapolis Grain Exchange. Despite this situation, historical evidence of the Kansas City Board of Trade and the Minneapolis Grain Exchange appears to indicate judicious preharvest sales for winter wheat on the Kansas City Board of Trade may produce realized cash prices either approximating or greater than those received for similar preharvest sales on the Minneapolis Grain Exchange.

When one considers making a preharvest sale on either futures market, apparently, a preharvest sale transacted on a particular date or during a certain period of time cannot be expected to guarantee the highest price that could have been earned during the wheat crop year. A

producer should use judgment similar to that required for cash market sales when considering a preharvest sale on a futures market.

Throughout the analyses of preharvest sales, an assumption was made that a farmer recognizes a satisfactory futures market price offered on either the Kansas City Board of Trade or the Minneapolis Grain Exchange when he conducts a preharvest sale. The analyses of historical data presented in Tables 3.1 and 3.2 appears to indicate a judicious preharvest sale during January 1 through July 1 on either commodity market above, followed by a timely purchase of offsetting futures market contract(s) during July 15-September 1 would result in a realized cash price approximating or greater than that originally considered satisfactory by the producer. In addition, the above situation supports T. A. Hieronymus' theory; "the price of grain at harvest is higher with futures trading than it would be without it."²⁸

Wheat producers and elevator managers may use the futures market to pursue alternative ways of establishing prices for hard red spring and winter wheat. The selected analysis of hedging covered four considerations: (1) to fix the price of grain held in storage for deferred delivery; (2) to protect against a price drop

²⁸T. A. Hieronymus, Uses of Grain Futures Markets in the Farm Business, Bulletin 696 (Urbana: University of Illinois Agricultural Experiment Station, September 1963), p. 21.

while anticipating a higher protein premium for stored wheat; (3) to fix the price of grain in anticipation of earning a storage payment and (4) a combination of previous possibilities Number (2) and Number (3). A gain of five cents or more was arbitrarily selected as that significant amount representing the completion of a successful hedge for stored wheat.

The selected analyses of hedging hard red spring and winter wheat was divided into three sections. Section E, of Chapter III included the Selected Analysis of Hedging Hard Red Spring Wheat on the Minneapolis Grain Exchange. Tables 3.3-3.5, of Chapter III show the results of hypothetical hedges for spring wheat on the Minneapolis Grain Exchange. Comparatively few hedging opportunities would have produced a significant gain of five cents or more per bushel for a minimum two-month hedge. Apparently, when establishing a hedge, no particular date or time period would guarantee a significant gain from the futures market. Tables 3.3-3.5, of Chapter III show opportunities for significant gains from hedging were more numerous in the higher protein percent levels. The incidence of significant gains from hedging did not appear to occur in any particular year or group of years.

Section F, of Chapter III is the Selected Analysis of Hedging Hard Red Winter Wheat on the Minneapolis Grain Exchange futures market. Tables 3.6-3.11, of Chapter III indicate comparatively few opportunities to earn a significant amount from hedging winter wheat for a basis gain. The incidence of hedging opportunities producing

significant gains are dispersed throughout the selected range of protein percent levels. However, a greater number of significant gains appear in the higher protein percent levels. The basis hedging opportunities that produced significant gains on the Minneapolis futures market were prevalent during crop years 1963, 1965, 1969 and 1970.

Selected Analyses of Hedging Hard Red Winter Wheat on the Kansas City Board of Trade futures market was presented in Section G of Chapter III. Data included in tables 3.12-3.17, of Chapter III indicate that there were few opportunities to gain a significant amount from a basis hedge for winter wheat on a futures market. Again, no particular date or time period for establishing a basis hedge would guarantee a significant gain from the futures market. Hedging opportunities that produced significant gains were dispersed throughout the range of selected protein percent levels. Hedging opportunities resulting in significant gains were prevalent more often during 1963, 1965 and 1970 crop years.

Other examples of basis hedges established either for a few days or a few months may be constructed from futures market prices and cash market prices data compiled and presented in the Appendix.

The basis action for 1962-1971 wheat crop years is presented in the Appendix. Inspection of these data reveals variation of basis action does not follow either a set pattern or course from one crop year to the next crop year. Random variation of basis action leads to unpredictable opportunities for establishing a basis hedge that

will produce a significant gain. This situation indicates the variation of basis action for wheat was not similar to that of corn, oats and soybeans.

A significant gain from hedging may indicate a storage payment for one who has stored the commodity. Tables 3.3-3.17, of Chapter III indicate comparatively few hedges on the futures market result in significant gains for wheat producers and elevator managers. The Federal Government wheat price support program should be analyzed to determine its effect on hedging opportunities. Generally, processors may purchase wheat for a fixed price from government stocks thus reducing the need for contracting on the futures market. In the light of this, usually, processors would not offer a higher price for deferred delivery when they may expect to purchase wheat for a fixed price from government stocks. The above situation may indicate why the pricing of wheat was not similar to that of corn, oats and soybeans. Also, the above situation lends support to the theory; a gain from basis hedging represents a storage payment.²⁹ In past years, processors, in order to secure a supply of wheat, would buy futures contracts for wheat. Usually, the futures contracts quoted a higher price for deferred delivery of wheat than the prevailing cash market price. The need for futures contracts to insure

²⁹Ibid., p. 23.

a necessary supply of wheat was reduced because the Federal Government price support program maintains a large stock of wheat at a set price.

The uninitiated may find the present system of reporting futures market prices, confusing. Presently, futures market prices for wheat are reported for a given protein level. Those unfamiliar with the present futures market price quotations may not understand the significance of discounts and premiums for the additional selected protein percent levels. A study of futures market price quotations with the discount or premium included for each selected protein percent level should be conducted to determine whether the futures market price quotations could be better understood and related to the total price which includes protein discounts and premiums.

An analysis of establishing market information centers in local elevators for customer convenience might be conducted in conjunction with the above study. A market information center might include the following: (1) market board showing futures market and cash market prices of commodities indigenous to local areas; (2) brochures and pamphlets explaining how to use the services offered by the commodity markets for hedging and preharvest sales and (3) a bulletin board posted with recent market trends, crop expectations and additional information that may aid a farmer's marketing decisions.

SELECTED BIBLIOGRAPHY

SELECTED BIBLIOGRAPHY

- Amidon, Paul S. et al. How to Market Grain. Minneapolis: Minneapolis Grain Exchange, January, 1958.
- Board of Trade of the City of Chicago. Commodity Trading Manual. 1966.
- Chicago Board of Trade. Hedging Highlights. 1968.
- Chicago Board of Trade. The Market Place. 1966.
- Closing Comparisons, Daily Market Record [Minneapolis, Minnesota], January 1, 1968 through September 1, 1972.
- Gray, Roger W. et al. Food Research Institute Studies. Supplement to Volume VII. Stanford: Food Research Institute of Stanford University, 1967.
- Hieronimus, T. A. Uses of Grain Futures Markets in the Farm Business. Bulletin 696. Urbana: University of Illinois Agricultural Experiment Station, September, 1963.
- Kansas City Board of Trade. Annual Statistical Report. 6 vols. 1962-1967.
- Merrill Lynch, Pierce, Fenner & Smith Inc. How to Buy and Sell Commodities. January, 1972.
- Merrill Lynch, Pierce, Fenner & Smith Inc. The Hedger's Handbook. October, 1971.
- Minneapolis Grain Exchange. Annual Report. 9 vols. 1962-1970.
- Sogn, Arthur B. Farmer Use of Grain Futures. Bulletin 590. Brookings: Agricultural Experiment Station, South Dakota State University. November, 1971.
- Thomson, Donald E. "A Wheat Growing Hedge Strategy for Farmers." Unpublished Master's thesis, North Dakota State University, 1971.
- Today's Prices, Farmers Union Grain Terminal Association [Minneapolis, Minnesota], March 1, 1968 through September 1, 1972.
- U. S. Department of Agriculture. News. July, 1972.
- University of Illinois College of Agriculture. Marketing Grain. Chicago: Chicago Board of Trade, 1966.

Zenz, Gary J. Futures Trading and the Purchasing Executive. The
National Association of Purchasing Management. July, 1971.

APPENDIX TABLES

Minneapolis Futures, Cash Price Relationship
for Hard Red Spring Wheat
1962-63 Crop Year

Fut. Con.	Futures	Month & Day	Cash 10% Protein	Basis 10% Protein	Cash 12% Protein	Basis 12% Protein	Cash 13% Protein	Basis 13% Protein	Cash 14% Protein	Basis 14% Protein	Cash 15% Protein	Basis 15% Protein	Cash 16% Protein	Basis 16% Protein
Dec.	239 1/2	Aug. 1	233 3/8	- 6 1/8	233 3/8	- 6 1/8	235 3/8	- 4 1/8	241 3/8	1 7/8	248 3/8	8 7/8	257 3/8	17 7/8
Dec.	235 7/8	Aug. 15	230 1/8	- 5 3/4	231 1/8	- 4 3/4	233 1/8	- 2 3/4	238 1/8	2 1/4	243 1/8	7 1/4	249 1/8	13 1/4
Dec.	233 1/4	Sept. 1	230 3/8	- 2 7/8	232 3/8	- 1 7/8	235 3/8	2 1/8	239 3/8	6 1/8	246 3/8	13 1/8	260 3/8	33 1/8
Dec.	231 7/8	Sept. 15	227 1/8	- 4 3/4	227 1/8	- 4 3/4	230 1/8	- 1 3/4	234 1/8	2 1/4	246 1/8	14 1/4	265 1/8	34 1/4
Dec.	229 7/8	Oct. 1	230 7/8	- 1	230 7/8	ON	233 7/8	4	237 7/8	8	247 7/8	18	266 7/8	37
Dec.	230 7/8	Oct. 15	231 7/8	1	233 7/8	3	236 7/8	6	240 7/8	10	248 7/8	18	262 7/8	32
Dec.	234 1/4	Nov. 1	236 1/4	2	238 1/4	4	242 1/4	8	246 1/4	12	254 1/4	20	264 1/4	30
May	236 3/8	Nov. 15	235 7/8	1 1/2	237 7/8	3 1/2	241 7/8	7 1/2	246 7/8	12 1/2	254 7/8	20 1/2	264 7/8	30 1/2
May	235 1/4	Dec. 1	232 1/4	- 3	234 1/4	- 1	237 1/4	2	242 1/4	7	252 1/4	17	260 1/4	25
May	234 3/4	Dec. 15	231 3/4	- 3	235 3/4	1	239 3/4	5	244 3/4	10	254 3/4	20	262 3/4	28
May	233 1/8	Jan. 1	229 1/8	- 4	233 1/8	ON	237 1/8	4	242 1/8	9	252 1/8	19	261 1/8	28
May	234 1/4	Jan. 15	232 1/4	- 2	236 1/4	2	240 1/4	6	245 1/4	11	255 1/4	21	266 1/4	32
May	232 3/4	Feb. 1	231 5/8	- 1	235 5/8	3	239 5/8	7	243 5/8	11	253 5/8	21	265 5/8	31
May	234	Feb. 15	233	- 1	237	3	241	7	245	11	255	21	267	33
May	234 1/8	Mar. 1	234 1/8	ON	238 1/8	4	242 1/8	8	246 1/8	12	254 1/8	20	261 1/8	27
May	233 7/8	Mar. 15	233 7/8	ON	237 7/8	4	240 7/8	7	243 7/8	10	248 7/8	15	255 7/8	22
May	234 5/8	Apr. 1	233 5/8	- 1	237 5/8	3	239 5/8	5	241 5/8	7	247 5/8	13	254 3/8	20
July	226 1/8	Apr. 15	235 1/2	9 3/8	239 1/2	13 3/8	241 1/2	15 3/8	243 1/2	17 3/8	249 1/2	23 3/8	256 1/2	30 3/8
July	225	May 1	235 5/8	10 5/8	239 5/8	14 5/8	240 5/8	15 5/8	241 5/8	16 5/8	245 5/8	20 5/8	254 5/8	29 5/8
July	221 3/4	May 15	230 3/4	9	234 3/4	13	235 3/4	14	236 3/4	15	240 3/4	19	248 3/4	27

Minneapolis Futures, Cash Price Relationship
for Hard Red Spring Wheat
1963-64 Crop Year

Fut. Mon.	Futures	Month & Day	Cash 10% Protein	Basis 10% Protein	Cash 12% Protein	Basis 12% Protein	Cash 13% Protein	Basis 13% Protein	Cash 14% Protein	Basis 14% Protein	Cash 15% Protein	Basis 15% Protein	Cash 16% Protein	Basis 16% Protein
Dec.	213 1/4	Aug. 1	209 3/8	- 3 7/8	214 3/8	1 1/8	215 3/8	2 1/8	216 3/8	3 1/8	217 3/8	4 1/8	221 3/8	8 1/8
Dec.	215	Aug. 15	211	- 4	214	- 1	214	- 1	217	2	220	5	223	8
Dec.	217 3/8	Sept. 1	220 3/4	3 3/8	223 3/4	6 3/8	223 3/4	6 3/8	226 3/4	9 3/8	229 3/4	12 3/8	232 3/4	15 3/8
Dec.	222 1/8	Sept. 15	227 1/4	5 1/8	229 1/4	7 1/8	230 1/4	8 1/8	232 1/4	10 1/8	234 1/4	12 1/8	239 1/4	17 1/8
Dec.	223 3/8	Oct. 1	232 3/8	4	234 3/8	6	235 3/8	7	237 3/8	9	239 3/8	11	241 3/8	13
Dec.	228 1/2	Oct. 15	233 1/2	5	235 1/2	7	235 1/2	8	238 1/2	10	240 1/2	12	242 1/2	14
Dec.	228 7/8	Nov. 1	233 7/8	5	235 7/8	7	236 7/8	8	238 7/8	10	240 7/8	12	242 7/8	14
Mar.	224 3/8	Nov. 15	229 1/8	4 3/4	231 1/8	6 3/4	232 1/8	7 3/4	232 1/8	7 3/4	234 1/8	9 3/4	236 1/8	11 3/4
Mar.	226 1/8	Dec. 1	229 1/2	3 3/8	231 1/2	5 3/8	232 1/2	6 3/8	232 1/2	6 3/8	233 1/2	7 3/8	234 1/2	8 3/8
Mar.	229 1/4	Dec. 15	231 1/4	2	233 1/4	4	234 1/4	5	234 1/4	5	236 1/4	7	238 1/4	9
Mar.	228 1/8	Jan. 1	230 1/8	2	231 1/8	3	232 1/8	4	233 1/8	5	235 1/8	7	238 1/8	10
Mar.	228 3/4	Jan. 15	230 3/4	2	231 3/4	3	232 3/4	4	232 3/4	5	235 3/4	7	239 3/4	11
Mar.	225 1/2	Feb. 1	225 1/2	0X	226 1/2	1	227 1/2	2	228 1/2	3	229 1/2	4	233 1/2	8
May	225 1/4	Feb. 15	226 1/2	1 1/4	227 1/2	2 1/4	228 1/2	3 1/4	229 1/2	4 1/4	229 1/2	4 1/4	233 1/2	8 1/4
May	218 3/4	Mar. 1	224 3/8	5 5/8	225 3/8	6 5/8	226 3/8	7 5/8	227 3/8	8 5/8	227 3/8	8 5/8	231 3/8	12 5/8
May	211	Mar. 15	212	1	213	2	214	3	215	4	215	4	219	8
May	215 1/2	Apr. 1	220 1/2	5	221 1/2	6	222 1/2	7	223 1/2	8	224 1/2	9	228 1/2	13
July	174	Apr. 15	222 3/4	48 3/4	223 3/4	49 3/4	224 3/4	50 3/4	225 3/4	51 3/4	229 3/4	55 3/4	233 3/4	59 3/4
July	175	May 1	230 5/8	55 5/8	231 5/8	56 5/8	232 5/8	57 5/8	233 5/8	58 5/8	236 5/8	61 5/8	239 5/8	64 5/8
July	173 1/2	May 15	225	51 1/2	226	52 1/2	227	53 1/2	228	54 1/2	228	54 1/2	230	56 1/2

Minneapolis Futures, Cash Price Relationship
for Hard Red Spring Wheat
1954-65 Crop Year

Fut. Mon.	Futures	Month & Day	Cash 10% Protein	Basis 10% Protein	Cash 12% Protein	Basis 12% Protein	Cash 13% Protein	Basis 13% Protein	Cash 14% Protein	Basis 14% Protein	Cash 15% Protein	Basis 15% Protein	Cash 16% Protein	Basis 16% Protein
Dec.	161 5/8	Aug. 1	161	- 5/8	162	3/8	163	1 3/8	165	3 3/8	168	6 3/8	173	11 3/8
Dec.	164 3/4	Aug. 15	166 1/4	1 1/2	167 1/4	2 1/2	168 1/4	3 1/2	170 1/4	5 1/2	172 1/4	7 1/2	178 1/4	13 1/2
Dec.	167 3/4	Sept. 1	173 1/2	5 3/4	173 1/2	5 3/4	174 1/2	6 3/4	174 1/2	6 3/4	175 1/2	7 3/4	177 1/2	9 3/4
Dec.	168 3/8	Sept. 15	173 3/8	5	173 3/8	5	174 3/8	6	175 3/8	7	175 3/8	7	176 3/8	8
Dec.	168 5/8	Oct. 1	173 5/8	5	174 5/8	6	176 5/8	8	177 5/8	9	177 5/8	9	180 5/8	12
Dec.	169 5/8	Oct. 15	174 5/8	5	176 5/8	7	178 5/8	9	179 5/8	10	179 5/8	10	182 5/8	13
Dec.	170 3/4	Nov. 1	175 3/4	5	177 3/4	7	179 3/4	9	180 3/4	10	180 3/4	10	183 3/4	13
Mar.	168 1/4	Nov. 15	175	6 3/4	176	7 3/4	177	8 3/4	177	8 3/4	178	9 3/4	180	11 3/4
Mar.	169 1/4	Dec. 1	176 1/8	6 7/8	177 1/8	7 7/8	178 1/8	8 7/8	178 1/8	8 7/8	178 1/8	8 7/8	180 1/8	10 7/8
Mar.	170 1/4	Dec. 15	176 1/4	6	177 1/4	7	178 1/4	8	178 1/4	8	178 1/4	8	180 1/4	10
Mar.	168 3/4	Jan. 1	178 3/4	10	179 3/4	11	180 3/4	12	180 3/4	12	180 3/4	12	182 3/4	14
Mar.	170	Jan. 15	177	7	178	8	178	8	178	8	179	9	181	11
Mar.	171 1/8	Feb. 1	179 1/8	8	180 1/8	9	180 1/8	9	180 1/8	9	181 1/8	10	183 1/8	12
May	169	Feb. 15	174 5/8	5 5/8	174 5/8	5 5/8	174 5/8	5 5/8	175 5/8	6 5/8	176 5/8	7 5/8	179 5/8	10 5/8
May	170 3/4	Mar. 1	177 1/2	6 3/4	177 1/2	6 3/4	177 1/2	6 3/4	178 1/2	7 3/4	179 1/2	8 3/4	182 1/2	11 3/4
May	167 5/8	Mar. 15	172 5/8	5	173 5/8	6	173 5/8	6	174 5/8	7	176 5/8	9	180 5/8	13
May	168	Apr. 1	173	5	174	6	174	6	175	7	178	10	183	15
June	169 5/8	Apr. 1	174 1/8	4 1/2	175 1/8	5 1/2	175 1/8	5 1/2	176 1/8	6 1/2	178 1/8	8 1/2	183 1/8	13 1/2
June	167	May 1	172 1/4	5 1/4	173 1/4	6 1/4	173 1/4	6 1/4	174 1/4	7 1/4	176 1/4	9 1/4	181 1/4	14 1/4
June	169	May 15	175	6	176	7	177	8	177	9	179	10	183	16

Minneapolis Futures, Cash Price Relationship
for Hard Red Spring Wheat
1965-66 Crop Year

Fut. Mo.	Futures	Month & Day	Cash 10% Protein	Basis 10% Protein	Cash 12% Protein	Basis 12% Protein	Cash 13% Protein	Basis 13% Protein	Cash 14% Protein	Basis 14% Protein	Cash 15% Protein	Basis 15% Protein	Cash 16% Protein	Basis 16% Protein
Dec.	161 7/8	Aug. 1	166 1/2	4 5/8	167 1/2	5 5/8	170 1/2	8 5/8	171 1/2	9 5/8	175 1/2	13 5/8	181 1/2	19 5/8
Dec.	165 5/8	Aug. 15	163 1/4	-2 3/8	163 1/4	-2 3/8	165 1/4	- 3/8	170 1/4	4 5/8	175 1/4	10 5/8	185 1/4	19 1/4
Dec.	170 3/8	Sept. 1	171 1/8	3/4	171 1/8	3/4	172 1/8	1 3/4	175 1/8	4 3/4	180 1/8	9 3/4	190 1/8	19 3/4
Dec.	171 1/2	Sept. 15	171 1/2	0N	171 1/2	0N	172 1/2	1	175 1/2	4	180 1/2	9	191 1/2	20
Dec.	172	Oct. 1	176	4	176	4	177	5	179	7	184	12	201	29
Dec.	168 7/8	Oct. 15	172 7/8	4	172 7/8	4	173 7/8	5	176 7/8	8	180 7/8	12	197 7/8	29
Dec.	170 1/4	Nov. 1	175 1/4	5	175 1/4	5	177 1/4	7	181 1/4	11	185 1/4	15	202 1/4	32
Mar.	169 1/4	Nov. 15	171 7/8	2 5/8	171 7/8	2 5/8	173 7/8	4 5/8	178 7/8	9 5/8	182 7/8	13 5/8	199 7/8	30 5/8
Mar.	170 1/4	Dec. 1	174 1/4	4	174 1/4	4	176 1/4	6	182 1/4	12	186 1/4	16	194 1/4	24
Mar.	171	Dec. 15	174	3	174	3	176	5	181	10	185	14	194	23
Mar.	170 1/2	Jan. 1	171 1/2	1	172 1/2	2	174 1/2	4	179 1/2	9	183 1/2	13	199 1/2	19
Mar.	173 3/8	Jan. 15	175 3/8	2	176 3/8	3	177 3/8	4	182 3/8	9	187 3/8	14	193 3/8	20
Mar.	174 5/8	Feb. 1	177 5/8	3	178 5/8	4	179 5/8	5	185 5/8	11	192 5/8	18	200 5/8	25
June	173 3/8	Feb. 15	175 3/8	2	176 3/8	3	177 3/8	4	183 3/8	10	192 3/8	19	201 3/8	28
June	170 3/4	Mar. 1	173 3/4	3	174 3/4	4	175 3/4	5	181 3/4	11	192 3/4	22	201 3/4	31
June	168 5/8	Mar. 15	172 5/8	4	173 5/8	5	174 5/8	6	180 5/8	12	191 5/8	23	200 5/8	32
June	165 7/8	Apr. 1	169 7/8	4	170 7/8	5	171 7/8	6	174 7/8	9	181 7/8	16	187 7/8	22
June	169 3/8	Apr. 15	172 3/8	4	173 3/8	5	174 3/8	6	176 3/8	8	182 3/8	14	190 3/8	22
June	172 5/8	May 1	174 5/8	2	175 5/8	3	176 5/8	4	179 5/8	7	186 5/8	14	194 5/8	22
June	173 3/8	May 15	175 3/8	2	176 3/8	3	177 3/8	4	180 3/8	7	186 3/8	13	194 3/8	21

Minneapolis Futures, Cash Price Relationship
for Hard Red Spring Wheat
1966-67 Crop Year

Fut. Mon.	Futures	Month & Day	Cash 10% Protein	Basis 10% Protein	Cash 12% Protein	Basis 12% Protein	Cash 13% Protein	Basis 13% Protein	Cash 14% Protein	Basis 14% Protein	Cash 15% Protein	Basis 15% Protein	Cash 16% Protein	Basis 16% Protein
Dec.	200 3/8	Aug. 1	195 1/4	- 5 1/8	196 1/4	- 4 1/8	197 1/4	- 3 1/8	199 1/4	- 1 1/8	201 1/4	7/8	204 1/4	3 7/8
Dec.	205	Aug. 15	202 1/2	- 2 1/2	203 1/2	- 1 1/2	204 1/2	- 1/2	205 1/2	1/2	206 1/2	1 1/2	206 1/2	1 1/2
Dec.	206	Sept. 1	204	- 2	205	- 1	206	OK	207	1	207	1	207	1
Dec.	207 7/8	Sept. 15	206 7/8	- 1	207 7/8	OK	208 7/8	1	203 7/8	1	208 7/8	1	203 7/8	1
Dec.	191 3/8	Oct. 1	196 3/8	5	197 3/8	6	198 3/8	7	199 3/8	8	200 3/8	9	200 3/8	9
Dec.	191 1/4	Oct. 15	194 1/4	3	195 1/4	4	196 1/4	5	197 1/4	6	197 1/4	6	197 1/4	6
Dec.	183 1/2	Nov. 1	187 1/2	4	188 1/2	5	189 1/2	6	190 1/2	7	191 1/2	8	191 1/2	8
Mar.	189 5/8	Nov. 15	188 3/4	7/8	189 3/4	- 1/8	190 3/4	1 1/8	191 3/4	2 1/8	191 3/4	2 1/8	191 3/4	2 1/8
Mar.	193	Dec. 1	194 1/4	1 1/4	195 1/4	2 1/4	196 1/4	3 1/4	196 1/4	3 1/4	196 1/4	3 1/4	196 1/4	3 1/4
Mar.	192 5/8	Dec. 15	194 5/8	2	195 5/8	3	196 5/8	4	197 5/8	5	197 5/8	5	197 5/8	5
Mar.	184 5/8	Jan. 1	186 5/8	2	187 5/8	3	188 5/8	4	189 5/8	5	188 5/8	4	188 5/8	4
Mar.	180 3/8	Jan. 15	186 3/8	6	186 3/8	6	187 3/8	7	188 3/8	8	189 3/8	9	189 3/8	9
Mar.	176	Feb. 1	183	7	183	7	184	8	185	9	186	10	186	10
June	180 1/2	Feb. 15	186 1/2	6	186 1/2	6	187 1/2	7	188 1/2	8	189 1/2	9	189 1/2	9
June	186	Mar. 1	183 5/8	2 5/8	183 5/8	2 5/8	189 5/8	3 5/8	190 5/8	4 5/8	191 5/8	5 5/8	191 5/8	5 5/8
June	192 7/8	Mar. 15	195 7/8	3	195 7/8	3	195 7/8	3	196 7/8	4	197 7/8	5	197 7/8	5
June	187 1/4	Apr. 1	192 1/4	5	192 1/4	5	192 1/4	5	193 1/4	6	194 1/4	7	194 1/4	7
June	183 3/4	Apr. 15	187 3/4	4	187 3/4	4	187 3/4	4	188 3/4	5	189 3/4	6	189 3/4	6
June	186	May 1	195	9	195	9	195	9	196	10	197	11	197	11
June	186 5/8	May 15	196 5/8	10	196 5/8	10	196 5/8	10	197 5/8	11	198 5/8	12	198 5/8	12

Minneapolis Futures, Cash Price Relationship
for Hard Red Spring Wheat
1967-68 Crop Year

Fut. Mon.	Futures	Month & Day	Cash 10% Protein	Basis 10% Protein	Cash 12% Protein	Basis 12% Protein	Cash 13% Protein	Basis 13% Protein	Cash 14% Protein	Basis 14% Protein	Cash 15% Protein	Basis 15% Protein	Cash 16% Protein	Basis 16% Protein
Dec.	171 5/8	Aug. 1	180 1/4	8 5/8	180 1/4	8 5/8	180 1/4	8 5/8	180 1/4	8 5/8	180 1/4	8 5/8	180 1/4	8 5/8
Dec.	171 1/2	Aug. 15	168 3/8	-3 1/8	171 3/8	- 1/8	173 3/8	1 7/8	176 3/8	4 7/8	179 3/8	7 7/8	183 3/8	11 3/8
Dec.	171 7/8	Sept. 1	165 1/8	-6 3/4	169 1/8	-2 3/4	173 1/8	1 1/4	175 1/8	3 1/4	181 1/8	9 1/4	188 1/8	16 1/4
Dec.	171 1/8	Sept. 15	164 1/8	-7	168 1/8	-3	173 1/8	2	177 1/8	6	184 1/8	13	192 1/8	21
Dec.	170 5/8	Oct. 1	161 5/8	-9	165 5/8	-5	171 5/8	1	177 5/8	7	185 5/8	15	193 5/8	23
Dec.	170 1/2	Oct. 15	164 1/2	-6	168 1/2	-2	173 1/2	3	179 1/2	9	183 1/2	18	195 1/2	25
Dec.	167 5/8	Nov. 1	159 5/8	-8	163 5/8	-4	168 5/8	1	175 5/8	8	185 5/8	18	192 5/8	25
Mar.	165	Nov. 15	159 7/8	-5 1/2	163 7/8	-1 1/8	170 7/8	5 7/8	173 7/8	8 7/8	179 7/8	14 7/8	186 7/8	21 7/8
Mar.	165	Dec. 1	159 3/4	-5 3/4	163 1/4	-1 3/4	168 1/4	3 1/4	173 1/4	8 1/4	179 1/4	14 1/4	186 1/4	21 1/4
Mar.	167 1/8	Dec. 15	159 1/8	-8	163 1/8	-4	168 1/8	1	175 1/8	8	180 1/8	13	188 1/8	21
Mar.	164 1/8	Jan. 1	157 1/8	-7	161 1/8	-3	166 1/8	2	173 1/8	9	178 1/8	14	186 1/8	22
Mar.	166 3/8	Jan. 15	161 3/8	-5	165 3/8	-1	170 3/8	4	177 3/8	11	182 3/8	16	189 3/8	23
Mar.	168 1/4	Feb. 1	161 1/4	-7	165 1/4	-3	170 1/4	2	176 1/4	8	181 1/4	13	189 1/4	21
June	168 1/4	Feb. 15	160	-8 1/4	164	-4 1/4	168	- 1/4	173	4 3/4	179	10 3/4	187	18 3/4
June	167 5/8	Mar. 1	162 1/2	-5 1/8	165 1/2	-2 1/8	168 1/2	7/8	172 1/2	4 7/8	180 1/2	12 7/8	188 1/2	20 7/8
June	170 7/8	Mar. 15	163 7/8	-7	166 7/8	-4	169 7/8	-1	173 7/8	3	181 7/8	11	187 7/8	17
June	168 5/8	Apr. 1	163 5/8	-5	166 5/8	-2	169 5/8	1	173 5/8	5	181 5/8	13	187 5/8	19
June	163 1/2	Apr. 15	159 1/2	-4	162 1/2	-1	165 1/2	2	169 1/2	6	177 1/2	14	183 1/2	20
June	162 1/2	May 1	159 1/2	-3	162 1/2	0	165 1/2	3	169 1/2	7	177 1/2	15	185 1/2	23
June	164 3/8	May 15	160 3/8	-4	163 3/8	-1	166 3/8	2	170 3/8	6	178 3/8	14	186 3/8	24

Minnesota Futures, Cash Price Relationship
for Hard Red Spring Wheat
1958-59 Crop Year

Fut. Month	Futures	Month & Day	Cash 10% Protein	Basis 10% Protein	Cash 12% Protein	Basis 12% Protein	Cash 13% Protein	Basis 13% Protein	Cash 14% Protein	Basis 14% Protein	Cash 15% Protein	Basis 15% Protein	Cash 16% Protein	Basis 16% Protein
Dec.	153 1/8	Aug. 1	143 1/8	-10	145 1/8	-5	152 1/8	-1	157 1/8	4	163 1/8	10	171 1/8	18
Dec.	154	Aug. 15	145	-9	148	-6	154	0	160	6	167	13	176	22
Dec.	154 1/8	Sept. 1	140 7/8	-5 1/4	151 7/8	-2 1/4	157 7/8	3 3/4	164 7/8	10 3/4	175 7/8	21 3/4	188 7/8	33 3/4
Dec.	151 1/8	Sept. 15	147 3/4	-3 3/8	150 3/4	-3/8	154 3/4	3 5/8	161 3/4	10 5/8	172 3/4	21 5/8	188 1/4	37 5/8
Dec.	155 1/4	Oct. 1	155 1/4	ON	158 1/4	3	162 1/4	7	169 1/4	14	182 1/4	27	198 1/4	43
Dec.	155 3/8	Oct. 15	155 3/8	ON	158 3/8	3	162 3/8	7	168 3/8	13	182 3/8	28	198 3/8	43
Dec.	158 3/8	Nov. 1	158 3/8	ON	161 3/8	3	164 3/8	6	171 3/8	13	185 3/8	27	200 3/8	42
Mar.	159 1/2	Nov. 15	159 5/8	1/8	162 5/8	3 1/8	164 5/8	5 1/8	171 5/8	12	180 5/8	21	194 5/8	35
Mar.	156 7/8	Dec. 1	156	-7/8	158	1 1/8	160	3 1/8	166	9 1/8	175	10 1/8	191	34 1/8
Mar.	159 1/4	Dec. 15	157 1/4	-1	159 1/4	1	161 1/4	3	166 1/4	8	176 1/4	18	192 1/4	34
Mar.	158 1/4	Jan. 1	157 1/4	-1	159 1/4	1	161 1/4	3	166 1/4	8	179 1/4	21	196 1/4	41
Mar.	158	Jan. 15	157	-1	159	1	162	4	168	10	185	27	202	44
Mar.	159 1/2	Feb. 1	158 1/2	-1	160 1/2	1	163 1/2	4	168 1/2	9	185 1/2	26	204 1/2	45
June	159 3/8	Feb. 15	155 1/4	-3 1/8	157 1/4	-1 1/8	160 1/4	1 7/8	165 1/4	6 7/8	181 1/4	22 7/8	198 1/4	39 7/8
June	158 5/8	Mar. 1	156 1/4	-2 3/8	158 1/4	4 3/8	161 1/4	2 5/8	166 1/4	7 5/8	181 1/4	22 5/8	196 1/4	37 5/8
June	157 5/8	Mar. 15	156 5/8	-1	158 5/8	1	162 5/8	5	167 5/8	10	184 5/8	27	199 1/2	42
June	155 5/8	Apr. 1	154 5/8	-1	156 5/8	1	160 5/8	5	165 5/8	10	182 5/8	27	197 5/8	42
June	157 3/8	Apr. 15	156 3/8	-1	158 3/8	1	162 3/8	5	167 3/8	10	181 3/8	24	195 3/8	38
June	155 5/8	May 1	154 5/8	-1	156 5/8	1	160 5/8	5	166 5/8	11	181 5/8	26	195 5/8	40
June	155 5/8	May 15	154 5/8	-1	156 5/8	1	160 5/8	5	166 5/8	11	183 5/8	28	197 5/8	42

Minneapolis Futures, Cash Price Relationship
for Hard Red Spring Wheat
1963-70 Crop Year

Fut. Mo.	Futures	Month & Day	Cash 10% Protein	Basis 10% Protein	Cash 12% Protein	Basis 12% Protein	Cash 13% Protein	Basis 13% Protein	Cash 14% Protein	Basis 14% Protein	Cash 15% Protein	Basis 15% Protein	Cash 16% Protein	Basis 16% Protein
Dec.	152 7/8	Aug. 1	150	-2 7/8	153	1/8	158	5 1/8	165	12 1/8	179	26 1/8	190	37 1/8
Dec.	154	Aug. 15	150 1/2	-3 1/2	153 1/2	- 1/2	156 1/2	2 1/2	161 1/2	7 1/2	170 1/2	16 1/2	178 1/2	24 1/2
Dec.	158 3/4	Sept. 1	155 5/8	-2 1/8	158 5/8	7/8	162 5/8	3 7/8	167 5/8	8 7/8	173 5/8	14 7/8	183 5/8	24 7/8
Dec.	159 3/4	Sept. 15	156 3/4	-3	160 3/4	1	163 3/4	4	168 3/4	9	177 3/4	18	192 3/4	34
Dec.	164 3/4	Oct. 1	161 3/8	-3	165 3/8	1	168 3/8	4	172 3/8	8	177 3/8	13	196 3/8	32
Dec.	168 7/8	Oct. 15	166 7/8	-2	168 7/8	ON	171 7/8	3	175 7/8	7	180 7/8	12	195 7/8	28
Dec.	168 7/8	Nov. 1	165 7/8	-3	167 7/8	-1	170 7/8	2	174 7/8	6	179 7/8	11	194 7/8	26
Mar.	172 1/2	Nov. 15	169 1/2	-3	171 1/2	-1	174 1/2	2	178 1/2	6	182 1/2	10	196 1/2	24
Mar.	173 5/8	Dec. 1	171 5/8	-2	173 5/8	ON	176 5/8	3	180 5/8	7	184 5/8	11	198 5/8	25
Mar.	174 1/8	Dec. 15	172 1/8	-2	174 1/8	ON	176 1/8	2	179 1/8	5	184 1/8	10	194 1/8	20
Mar.	174 3/8	Jan. 1	169 3/8	-5	171 3/8	-3	172 3/8	-2	174 3/8	ON	181 3/8	7	196 3/8	16
Mar.	177 5/8	Jan. 15	172 5/8	-5	174 5/8	-3	175 5/8	-2	177 5/8	ON	184 5/8	7	196 5/8	17
Mar.	172 1/2	Feb. 1	168 1/2	-4	169 1/2	-3	169 1/2	-3	173 1/2	1	181 1/2	9	193 1/2	21
June	175 3/8	Feb. 15	168 1/2	-6 7/8	169 1/2	-5 7/8	170 1/2	-4 7/8	175 1/2	1/8	183 1/2	8 1/8	198 1/2	23 1/8
June	173 5/8	Mar. 1	167 5/8	-6	168 5/8	-5	170 5/8	-3	175 5/8	2	183 5/8	10	194 5/8	21
June	172 1/8	Mar. 15	166 1/8	-6	167 1/8	-5	169 1/8	-3	173 1/8	1	182 1/8	10	193 1/8	21
June	172 5/8	Apr. 1	169 5/8	-3	170 5/8	-2	172 5/8	ON	176 5/8	4	185 5/8	13	194 5/8	22
June	174 5/8	Apr. 15	171 5/8	-3	172 5/8	-2	174 5/8	ON	178 5/8	4	188 5/8	14	198 5/8	24
June	173 5/8	May 1	168 5/8	-5	169 5/8	-4	175 5/8	2	178 5/8	5	185 5/8	12	193 5/8	20
June	170 5/8	May 15	165 5/8	-5	166 5/8	-4	173 5/8	3	178 5/8	8	190 5/8	20	199 5/8	29

Minneapolis Futures, Cash Price Relationship
for Hard Red Spring Wheat
1970-71 Crop Year

Fut. Mon.	Futures	Month & Day	Cash 10% Protein	Basis 10% Protein	Cash 12% Protein	Basis 12% Protein	Cash 13% Protein	Basis 13% Protein	Cash 14% Protein	Basis 14% Protein	Cash 15% Protein	Basis 15% Protein	Cash 16% Protein	Basis 16% Protein
Dec.	172 3/4	Aug. 1	172 5/8	- 1/8	172 5/8	- 1/8	173 5/8	5 7/8	178 5/8	5 7/8	183 5/8	10 7/8	188 5/8	15 7/8
Dec.	174 3/4	Aug. 15	172 1/2	- 1/4	172 1/2	- 1/4	176 1/2	1 3/4	177 1/2	2 3/4	183 1/2	3 3/4	188 1/2	13 3/4
Dec.	182 1/8	Sept. 1	182 3/8	1/4	182 3/8	1/4	188 3/8	6 1/4	189 3/8	7 1/4	192 3/8	10 1/4	196 3/8	14 1/4
Dec.	188	Sept. 15	188	ON	188	ON	188	ON	189	1	190	2	196	8
Dec.	186 1/2	Oct. 1	180 1/2	-6	182 1/2	-4	182 1/2	-4	185 1/2	-1	186 1/2	ON	192 1/2	6
Dec.	194	Oct. 15	189	-5	191	-3	192	-2	195	1	199	5	201	7
Dec.	191 1/2	Nov. 1	186 1/2	-5	198 1/2	-3	189 1/2	-2	192 1/2	1	195 1/2	4	198 1/2	7
Mar.	189 1/2	Nov. 15	186 7/8	-2 5/8	190 7/8	1 3/8	191 7/8	2 3/8	194 7/8	5 3/8	197 7/8	8 3/8	198 7/8	9 3/8
Mar.	190	Dec. 1	185 5/8	-4 3/8	189 5/8	- 3/8	193 5/8	3 5/8	193 5/8	3 5/8	195 5/8	5 5/8	196 5/8	6 5/8
Mar.	186 3/8	Dec. 15	178 1/4	-8 1/8	182 1/4	-4 1/8	186 1/4	- 1/8	187 1/4	7/8	188 1/4	1 7/8	191 1/4	4 7/8
Mar.	183 3/4	Jan. 1	175 3/4	-8	179 3/4	-4	183 3/4	ON	184 3/4	1	187 3/4	4	190 3/4	7
Mar.	184 1/4	Jan. 15	176 1/4	-8	180 1/4	-4	184 1/4	ON	190 1/4	6	193 1/4	9	198 1/4	14
Mar.	177 5/8	Feb. 1	169 5/8	-8	173 5/8	-4	177 5/8	ON	179 5/8	2	182 5/8	5	187 5/8	10
May	178 1/2	Feb. 15	170 3/8	-8 1/8	174 3/8	-4 1/8	179 3/8	7/8	183 3/8	4 7/8	187 3/8	8 7/8	192 3/8	13 7/8
May	176 1/2	Mar. 1	167 1/2	-9	171 1/2	-5	177 1/2	1	180 1/2	4	186 1/2	10	191 1/2	15
May	173 5/8	Mar. 15	164 5/8	-9	168 5/8	-5	172 5/8	-1	177 5/8	4	181 5/8	8	183 5/8	10
May	171 1/2	Apr. 1	162 1/2	-9	166 1/2	-5	170 1/2	-1	175 1/2	4	177 1/2	6	181 1/2	10
July	173 7/8	Apr. 15	166 5/8	-7 1/4	170 5/8	-3 1/4	176 5/8	2 3/4	179 5/8	5 3/4	183 5/8	9 3/4	187 5/8	13 3/4
July	167 3/8	May 1	163 1/8	-4 1/4	167 1/8	- 1/4	173 1/8	5 3/4	176 1/8	8 3/4	183 1/8	15 3/4	187 1/8	19 3/4
July	165 3/8	May 15	161 3/4	-3 5/8	164 3/4	- 5/8	171 3/4	6 3/8	174 3/4	9 3/8	178 3/4	13 3/8	185 3/4	20 3/8

Minneapolis Futures, Cash Price Relationship
for Hard Red Spring Wheat
1971-72 Crop Year

Fut. Mon.	Futures	Month & Day	Cash 10% Protein	Basis 10% Protein	Cash 12% Protein	Basis 12% Protein	Cash 13% Protein	Basis 13% Protein	Cash 14% Protein	Basis 14% Protein	Cash 15% Protein	Basis 15% Protein	Cash 16% Protein	Basis 16% Protein
Dec.	158 3/4	Aug. 1	153 3/4	- 5	155 3/4	-3	159 3/4	1	162 3/4	4	164 3/4	6	172 3/4	14
Dec.	157 3/8	Aug. 15	150 3/8	- 7	152 3/8	-5	155 3/8	-2	158 3/8	1	166 3/8	9	173 3/8	16
Dec.	159 1/8	Sept. 1	153 1/8	- 6	154 1/8	-5	154 1/8	-5	158 1/8	-1	170 1/8	11	182 1/8	23
Dec.	158 7/8	Sept. 15	148 7/8	-10	150 7/8	-8	153 7/8	-5	158 7/8	ON	171 7/8	13	185 7/8	27
Dec.	157 3/4	Oct. 1	147 7/8	-10	148 7/8	-9	154 7/8	-3	162 7/8	5	173 7/8	15	188 7/8	31
Dec.	159	Oct. 15	150	- 9	151	-8	157	-2	165	6	174	15	192	33
Dec.	157 3/8	Nov. 1	154 3/8	- 3	157 3/8	ON	159 3/8	1	163 3/8	6	172 3/8	15	190 3/8	33
Mar.	158 5/8	Nov. 15	158 5/8	ON	161 5/8	3	162 5/8	4	167 5/8	9	174 5/8	16	191 5/8	33
Mar.	157	Dec. 1	157	ON	160	3	161	4	165	9	171	14	184	27
Mar.	162 1/2	Dec. 15	158 5/8	- 4 1/8	161 5/8	-1 1/8	162 5/8	1/8	167 5/8	5 1/8	172 5/8	10 1/8	183 5/8	21 1/8
Mar.	159 1/4	Jan. 1	156 1/4	- 3	159 1/4	ON	162 1/4	3	166 1/4	7	173 1/4	14	181 1/4	22
Mar.	159 3/4	Jan. 15	156 3/4	- 3	160 3/4	1	162 3/4	3	165 3/4	6	175 3/4	16	185 3/4	26
Mar.	156 3/4	Feb. 1	152 3/4	- 4	156 3/4	ON	158 3/4	2	160 3/4	4	169 3/4	13	181 3/4	25
May	159 3/4	Feb. 15	156 3/4	- 3	160 3/4	1	162 3/4	3	164 3/4	5	170 3/4	11	182 3/4	23
May	158 1/2	Mar. 1	155 1/2	- 3	159 1/2	1	161 1/2	3	163 1/2	5	169 1/2	11	180 1/2	22
May	158 3/8	Mar. 15	150 3/8	- 8	154 3/8	-4	156 3/8	-2	158 3/8	ON	165 3/8	7	178 3/8	20
May	159 1/8	Apr. 1	152 1/8	- 7	156 1/8	-3	158 1/8	-1	162 1/8	3	172 1/8	13	183 1/8	24
July	159 3/4	Apr. 15	153 3/4	- 6	157 3/4	-2	159 3/4	ON	162 3/4	3	174 3/4	15	186 3/4	27
July	157 1/4	May 1	153 1/4	- 4	157 1/4	ON	159 1/4	2	164 1/4	7	175 1/4	18	185 1/4	29
July	155 1/2	May 15	151 1/2	- 4	155 1/2	ON	159 1/2	4	163 1/2	8	175 1/2	20	186 1/2	31

Minneapolis Futures, Cash Price Relationship
for Hard Red Winter Wheat
1962-63 Crop Year

Fut. Mon.	Futures	Month & Day	Cash 10% Protein	Basis 10% Protein	Cash 12% Protein	Basis 12% Protein	Cash 13% Protein	Basis 13% Protein	Cash 14% Protein	Basis 14% Protein	Cash 15% Protein	Basis 15% Protein	Cash 16% Protein	Basis 16% Protein
Dec.	239 1/2	Aug. 1	229 3/8	-10 1/8	233 3/8	- 6 1/8	235 3/8	- 4 1/8	238 3/8	- 1 1/8	242 3/8	2 7/8	246 3/8	6 7/8
Dec.	235 7/8	Aug. 15	222 1/8	-13 3/4	226 1/8	- 9 3/4	228 1/8	- 7 3/4	230 1/8	- 5 3/4	233 1/8	- 2 3/4	236 1/8	1/4
Dec.	233 1/4	Sept. 1	220 3/8	-12 7/8	228 3/8	- 4 7/8	230 3/8	- 2 7/8	232 3/8	- 7/8	237 3/8	4 1/8	242 3/8	9 1/8
Dec.	231 7/8	Sept. 15	218 1/8	-13	228 1/8	- 3	230 1/8	- 1	232 1/8	1	237 1/8	6	242 1/8	11
Dec.	229 7/8	Oct. 1	216 7/8	-13	227 7/8	- 2	230 7/8	1	232 7/8	3	237 7/8	8	242 7/8	13
Dec.	230 7/8	Oct. 15	217 7/8	-13	228 7/8	- 2	231 7/8	1	233 7/8	8	246 7/8	16	254 7/8	24
Dec.	234 1/4	Nov. 1	221 1/4	-13	234 1/4	ON	237 1/4	3	244 1/4	10	252 1/4	18	260 1/4	26
May	243 3/8	Nov. 15	221 3/8	-23	234 3/8	- 9	237 3/8	- 6	244 3/8	1	252 3/8	9	260 3/8	17
May	235 1/4	Dec. 1	222 1/4	-13	234 1/4	- 1	237 1/4	2	244 1/4	9	252 1/4	17	260 1/4	25
May	234 3/4	Dec. 15	223 3/4	-11	233 3/4	- 1	236 3/4	2	243 3/4	9	251 3/4	17	259 3/4	23
May	233 1/8	Jan. 1	220 1/8	-13	232 1/8	- 1	235 1/8	2	242 1/8	9	250 1/8	17	258 1/8	25
May	234 1/4	Jan. 15	221 1/4	-13	233 1/4	- 1	236 1/4	2	243 1/4	9	251 1/4	17	259 1/4	25
May	232 3/4	Feb. 1	221 3/4	-11	233 3/4	1	236 3/4	4	242 3/4	10	250 3/4	18	258 3/4	26
May	234	Feb. 15	223	-11	235	1	238	4	244	10	252	18	260	26
May	234 1/8	Mar. 1	225 1/8	- 9	237 1/8	3	240 1/8	6	246 1/8	12	254 1/8	20	262 1/8	28
July	226	Mar. 15	224 7/8	- 1 1/8	236 7/8	10 7/8	239 7/8	13 7/8	244 7/8	18 7/8	249 7/8	23 7/8	254 7/8	28 7/8
July	226 3/8	Apr. 1	225 5/8	- 3/4	237 5/8	11 1/4	240 5/8	14 1/4	243 5/8	17 1/4	247 5/8	21 1/4	254 5/8	28 1/4
July	226 1/8	Apr. 15	227 1/2	1 3/8	239 1/2	13 3/8	242 1/2	16 3/8	245 1/2	19 3/8	249 1/2	23 3/8	256 1/2	30 3/8
July	225	May 1	228	3	240	15	242	17	245	20	250	25	257	32
July	221 3/4	May 15	227 1/8	5 3/8	239 1/8	17 3/8	241 1/8	19 3/8	242 1/8	20 3/8	246 1/8	24 3/8	250 1/8	28 3/8

Minneapolis Futures, Cash Price Relationship
for Hard Red Winter Wheat
1963-64 Crop Year

Fut. Mon.	Future	Month & Day	Cash 10% Protein	Basis 10% Protein	Cash 12% Protein	Basis 12% Protein	Cash 13% Protein	Basis 13% Protein	Cash 14% Protein	Basis 14% Protein	Cash 15% Protein	Basis 15% Protein	Cash 16% Protein	Basis 16% Protein
Dec.	213 1/4	Aug. 1	197 3/8	-15 7/8	205 3/8	- 7 7/8	207 3/8	- 5 7/8	209 3/8	- 3 7/8	211 3/8	- 1 7/8	213 3/8	1/8
Dec.	215	Aug. 15	199	-16	207	- 8	209	- 6	211	- 4	216	1	218	3
Dec.	217 3/8	Sept. 1	206 3/4	-10 5/8	219 3/4	2 3/8	221 3/4	4 3/8	223 3/4	6 3/8	228 3/4	21 3/8	230 3/4	13 3/8
Dec.	222 1/8	Sept. 15	213 1/4	- 8 7/8	223 1/4	1 1/8	225 1/4	3 1/8	227 1/4	5 1/8	232 1/4	10 1/8	234 1/4	12 1/8
Dec.	228 3/8	Oct. 1	216 3/8	-12	224 3/8	- 4	226 3/8	- 2	228 3/8	ON	233 3/8	5	235 3/8	7
Dec.	228 1/2	Oct. 15	216 1/2	-12	221 1/2	- 7	223 1/2	- 5	225 1/2	- 3	230 1/2	2	232 1/2	4
Dec.	228 7/8	Nov. 1	216 7/8	-12	221 7/8	- 7	223 7/8	- 5	225 7/8	- 3	230 7/8	2	232 7/8	4
Mar.	224 3/8	Nov. 15	214 1/8	-10 1/4	219 1/8	- 5 1/4	221 1/8	- 3 1/4	223 1/8	- 1 1/4	228 1/8	3 3/4	230 1/8	5 3/4
Mar.	226 1/8	Dec. 1	214 1/2	-11 5/8	219 1/2	- 6 5/8	221 1/2	- 4 5/8	223 1/2	- 2 5/8	228 1/2	2 3/8	230 1/2	4 3/8
Mar.	229 1/4	Dec. 15	218 1/4	-11	225 1/4	- 4	227 1/4	- 2	229 1/4	ON	231 1/4	2	233 1/4	4
Mar.	228 1/8	Jan. 1	217 1/8	-11	224 1/8	- 4	226 1/8	- 2	228 1/8	ON	230 1/8	2	232 1/8	4
Mar.	228 3/4	Jan. 15	217 3/4	-11	224 3/4	- 4	226 3/4	- 2	228 3/4	ON	230 3/4	2	232 3/4	4
Mar.	225 1/2	Feb. 1	214 1/2	-11	221 1/2	- 4	223 1/2	- 2	225 1/2	ON	227 1/2	2	229 1/2	4
May	225 1/4	Feb. 15	215 1/2	- 9 3/4	222 1/2	- 2 3/4	224 1/2	- 3/4	226 1/2	1 1/4	228 1/2	3 1/4	230 1/2	5 1/4
May	218 3/8	Mar. 1	210 3/8	- 8	218 3/8	ON	220 3/8	2	222 3/8	4	224 3/8	6	226 3/8	8
May	211	Mar. 15	203	- 8	211	ON	213	2	215	4	217	6	219	8
May	215 1/2	Apr. 1	207 1/2	- 8	215 1/2	ON	217 1/2	2	219 1/2	4	221 1/2	6	223 1/2	8
July	174	Apr. 15	211 3/4	37 3/4	220 3/4	46 3/4	220 3/4	46 3/4	220 3/4	46 3/4	220 3/4	46 3/4	222 3/4	48 3/4
July	175	May 1	219 5/8	44 5/8	228 5/8	53 5/8	228 5/8	53 5/8	228 5/8	53 5/8	228 5/8	53 5/8	230 5/8	55 5/8
July	173 1/2	May 15	221	47 1/2	226	52 1/2	226	52 1/2	226	52 1/2	226	52 1/2	228	54 1/2

Minneapolis Futures, Cash Price Relationship
for Hard Red Winter Wheat
1964-65 Crop Year

Fut. Mon.	Futures	Month & Day	Cash 10% Protein	Basis 10% Protein	Cash 12% Protein	Basis 12% Protein	Cash 13% Protein	Basis 13% Protein	Cash 14% Protein	Basis 14% Protein	Cash 15% Protein	Basis 15% Protein	Cash 16% Protein	Basis 16% Protein
Dec.	161 5/8	Aug. 1	155	-6 5/8	159	-2 5/8	160	-1 5/8	161	- 5/8	162	3/8	163	1 3/8
Dec.	164 3/4	Aug. 15	158 1/4	-6 1/2	162 1/4	-2 1/2	163 1/4	-1 1/2	164 1/4	- 1/2	165 1/4	1/2	166 1/4	1 1/2
Dec.	167 3/4	Sept. 1	167 1/2	- 1/4	169 1/2	1 3/4	169 1/2	1 3/4	170 1/2	2 3/4	171 1/2	3 3/4	172 1/2	4 3/4
Dec.	168 3/8	Sept. 15	169 7/8	1 1/2	171 7/8	3 1/2	171 7/8	3 1/2	172 7/8	4 1/2	173 7/8	5 1/2	174 7/8	6 1/2
Dec.	168 5/8	Oct. 1	170 5/8	2	172 5/8	4	172 5/8	4	173 5/8	5	174 5/8	6	175 5/8	7
Dec.	169 5/8	Oct. 15	172 5/8	3	174 5/8	5	175 5/8	6	176 5/8	7	177 5/8	8	178 5/8	9
Dec.	170 3/4	Nov. 1	170 3/4	ON	172 3/4	2	173 3/4	3	174 3/4	4	175 3/4	5	176 3/4	6
Mar.	168 1/4	Nov. 15	171	2 3/4	173	4 3/4	174	5 3/4	175	6 3/4	176	7 3/4	177	8 3/4
Mar.	169 1/4	Dec. 1	171 1/8	1 7/8	173 1/8	3 7/8	174 1/8	4 7/8	175 1/8	5 7/8	176 1/8	6 7/8	177 1/8	7 7/8
Mar.	170 1/4	Dec. 15	168 1/4	-2	170 1/4	ON	171 1/4	1	172 1/4	2	173 1/4	3	174 1/4	4
Mar.	168 3/4	Jan. 1	168 3/4	ON	170 3/4	2	171 3/4	3	172 3/4	4	173 3/4	5	174 3/4	6
Mar.	170	Jan. 15	169	-1	171	1	172	2	173	3	174	4	175	5
Mar.	171 1/8	Feb. 1	170 1/8	-1	172 1/8	1	173 1/8	2	174 1/8	3	175 1/8	4	176 1/8	5
May	169	Feb. 15	166 5/8	-2 3/8	168 5/8	- 3/8	169 5/8	5/8	170 5/8	1 5/8	171 5/8	2 5/8	172 5/8	3 5/8
May	170 3/4	Mar. 1	167 1/2	-3 1/4	169 1/2	-1 1/4	170 1/2	- 1/4	172 1/2	1 3/4	173 1/2	2 3/4	174 1/2	3 3/4
May	167 5/8	Mar. 15	162 5/8	-5	164 5/8	-3	166 5/8	-1	168 5/8	1	169 5/8	2	170 5/8	3
May	168	Apr. 1	163	-5	164	-4	167	-1	169	1	170	2	171	3
June	169 5/8	Apr. 15	166 1/8	-3 1/2	167 1/8	-2 1/2	170 1/8	1/2	172 1/8	2 1/2	173 1/8	3 1/2	174 1/8	4 1/2
June	167	May 1	163 1/4	-3 3/4	164 1/4	-2 3/4	167 1/4	1/4	169 1/4	2 1/4	170 1/4	3 1/4	171 1/4	4 1/4
June	169	May 15	166	-3	168	-1	171	2	173	4	174	5	175	6

Minneapolis Futures, Cash Price Relationship
for Hard Red Winter Wheat
1965-66 Crop Year

Fut. Mon.	Futures	Month & Day	Cash 10% Protein	Basis 10% Protein	Cash 12% Protein	Basis 12% Protein	Cash 13% Protein	Basis 13% Protein	Cash 14% Protein	Basis 14% Protein	Cash 15% Protein	Basis 15% Protein	Cash 16% Protein	Basis 16% Protein
Dec.	161 7/8	Aug. 1	160 1/2	- 1 3/8	154 1/2	2 5/8	170 1/2	8 5/8	173 1/2	11 5/8	176 1/2	14 5/8	178 1/2	16 5/8
Dec.	165 5/8	Aug. 15	156 1/4	- 9 3/8	167 1/4	1 5/8	171 1/4	5 5/8	174 1/4	3 5/8	178 1/4	12 5/8	182 1/4	16 5/8
Dec.	170 3/8	Sept. 1	163 1/8	- 7 1/4	172 1/8	1 3/4	178 1/8	7 3/4	181 1/8	10 3/4	185 1/8	14 3/4	189 1/8	18 3/4
Dec.	171 1/2	Sept. 15	162 1/2	- 9	173 1/2	2	177 1/2	6	180 1/2	9	184 1/2	13	188 1/2	17
Dec.	172	Oct. 1	163	- 9	174	2	178	6	181	9	185	13	189	17
Dec.	168 7/8	Oct. 15	159 7/8	- 9	170 7/8	2	174 7/8	6	177 7/8	9	181 7/8	13	185 7/8	17
Dec.	170 1/4	Nov. 1	161 1/4	- 9	172 1/4	2	176 1/4	6	179 1/4	9	183 1/4	13	187 1/4	17
Mar.	169 1/4	Nov. 15	156 7/8	-12 3/8	167 7/8	-1 3/8	171 7/8	2 5/8	174 7/8	5 5/8	178 7/8	9 5/8	182 7/8	13 5/8
Mar.	170 1/4	Dec. 1	157 1/4	-13	168 1/4	-2	172 1/4	2	175 1/4	5	179 1/4	9	183 1/4	13
Mar.	171	Dec. 15	161	-10	173	2	176	5	179	8	183	12	187	16
Mar.	170 1/2	Jan. 1	159 1/2	-11	172 1/2	2	176 1/2	6	179 1/2	9	183 1/2	13	187 1/2	17
Mar.	173 3/8	Jan. 15	164 3/8	- 9	175 3/8	2	179 3/8	6	182 3/8	9	186 3/8	13	190 3/8	17
Mar.	174 5/8	Feb. 1	165 5/8	- 9	176 5/8	2	180 5/8	6	183 5/8	9	187 5/8	13	191 5/8	17
June	173 3/8	Feb. 15	165 3/8	- 8	176 3/8	3	180 3/8	7	183 3/8	10	187 3/8	14	191 3/8	18
June	170 3/4	Mar. 1	163 3/4	- 7	174 3/4	4	178 3/4	8	181 3/4	11	185 3/4	15	189 3/4	19
June	168 5/8	Mar. 15	162 5/8	- 6	173 5/8	5	177 5/8	9	180 5/8	12	184 5/8	16	188 5/8	20
June	165 7/8	Apr. 1	159 7/8	- 6	170 7/8	5	172 7/8	7	176 7/8	11	181 7/8	16	185 7/8	20
June	168 3/8	Apr. 15	162 3/8	- 6	173 3/8	5	175 3/8	7	179 3/8	11	184 3/8	16	188 3/8	20
June	172 5/8	May 1	166 5/8	- 6	177 5/8	5	179 7/8	7	183 5/8	11	188 5/8	16	192 5/8	20
June	173 3/8	May 15	167 3/8	- 6	178 3/8	5	180 3/8	7	184 3/8	11	189 3/8	16	193 3/8	20

Minneapolis Futures, Cash Price Relationship
for Hard Red Winter Wheat
1966-67 Crop Year

Fut. Mon.	Futures	Month & Day	Cash 10% Protein	Basis 10% Protein	Cash 12% Protein	Basis 12% Protein	Cash 13% Protein	Basis 13% Protein	Cash 14% Protein	Basis 14% Protein	Cash 15% Protein	Basis 15% Protein	Cash 16% Protein	Basis 15% Protein
Dec.	200 3/8	Aug. 1	192 1/4	- 8 1/8	195 1/4	-5 1/8	196 1/4	-4 1/8	197 1/4	-3 1/8	199 1/4	-1 1/8	201 1/4	7/8
Dec.	205	Aug. 15	199 1/2	- 5 1/2	202 1/2	-2 1/2	203 1/2	-1 1/2	205 1/2	1/2	207 1/2	2 1/2	209 1/2	4 1/2
Dec.	206	Sept. 1	195	-10	199	-7	200	-6	200	-6	201	-5	202	-4
Dec.	207 7/8	Sept. 15	198 7/8	- 9	201 7/8	-6	202 7/8	-5	202 7/8	-5	203 7/8	-4	204 7/8	-3
Dec.	191 3/8	Oct. 1	188 3/8	- 3	191 3/8	ON	192 3/8	1	192 3/8	1	193 3/8	2	194 3/8	3
Dec.	191 1/4	Oct. 15	189 1/4	- 2	192 1/4	1	193 1/4	2	193 1/4	2	194 1/4	3	195 1/4	4
Dec.	183 1/2	Nov. 1	173 1/2	- 5	181 1/2	-2	182 1/2	-1	182 1/2	-1	183 1/2	ON	184 1/2	1
Mar.	189 5/8	Nov. 15	182 3/4	- 6 7/8	185 3/4	-3 7/8	186 3/4	-2 7/8	186 3/4	-2 7/8	187 3/4	-1 7/8	188 3/4	- 7/8
Mar.	193	Dec. 1	189 1/4	- 3 3/4	192 1/4	- 3/4	193 1/4	1/4	193 1/4	1/4	193 1/4	1/4	194 1/4	1 1/4
Mar.	192 5/8	Dec. 15	184 5/8	- 8	186 5/8	-6	187 5/8	-5	187 5/8	-5	188 5/8	-4	188 5/8	-4
Mar.	184 5/8	Jan. 1	176 5/8	- 8	178 5/8	-6	179 5/8	-5	179 5/8	-5	180 5/8	-4	180 5/8	-4
Mar.	180 3/8	Jan. 15	176 3/8	- 4	178 3/8	-2	179 3/8	-1	179 3/8	-1	180 3/8	ON	180 3/8	ON
Mar.	176	Feb. 1	172	- 4	174	-2	175	-1	175	-1	175	-1	176	ON
June	180 1/2	Feb. 15	179 1/2	- 1	179 1/2	-1	180 1/2	ON	180 1/2	ON	180 1/2	ON	181 1/2	1
June	186	Mar. 1	185 5/8	- 3/8	185 5/8	- 3/8	186 5/8	5/8	186 5/8	1 5/8	186 5/8	1 5/8	187 5/8	2 5/8
June	192 7/8	Mar. 15	189 7/8	- 3	190 7/8	-2	190 7/8	-2	190 7/8	-2	190 7/8	-2	190 7/8	-2
June	187 1/4	Apr. 1	182 1/4	- 5	183 1/4	-4	183 1/4	-4	183 1/4	-4	183 1/4	-4	183 1/4	-4
June	183 3/4	Apr. 15	179 3/4	- 4	180 3/4	-3	180 3/4	-3	180 3/4	-3	180 3/4	-3	180 3/4	-3
June	185	May 1	184	- 2	185	-1	185	-1	185	-1	185	-1	185	-1
June	186 5/8	May 15	184 5/8	- 2	185 5/8	-1	185 5/8	-1	185 5/8	-1	185 5/8	-1	185 5/8	-1

Minneapolis Futures, Cash Price Relationship
for Hard Red Winter Wheat
1967-68 Crop Year

Fut. Mon.	Futures	Month & Day	Cash 10% Protein	Basis 10% Protein	Cash 12% Protein	Basis 12% Protein	Cash 13% Protein	Basis 13% Protein	Cash 14% Protein	Basis 14% Protein	Cash 15% Protein	Basis 15% Protein	Cash 16% Protein	Basis 16% Protein
Dec.	171 5/8	Aug. 1	165 1/4	- 6 3/8	167 1/4	- 4 3/8	168 1/4	- 3 3/8	169 1/4	-2 3/8	170 1/4	-1 3/8	171 1/4	- 3/8
Dec.	171 5/8	Aug. 15	157 3/8	-14 1/4	159 3/8	-12 1/4	160 3/8	-11 1/4	162 3/8	-9 1/4	164 3/8	-7 1/4	165 3/8	-6 1/4
Dec.	171 7/8	Sept. 1	156 1/8	-15 3/4	159 1/8	-12 3/4	160 1/8	-11 3/4	162 1/8	-9 3/4	164 1/8	-7 3/4	165 1/8	-5 3/4
Dec.	171 1/8	Sept. 15	156	-15 1/8	162	- 9 1/8	165	- 6 1/8	167	-4 1/8	169	-2 1/8	171	- 1/8
Dec.	170 5/8	Oct. 1	158 5/8	-12	163 5/8	- 7	167 5/8	- 3	171 5/8	1	173 5/8	3	175 5/8	5
Dec.	170 1/2	Oct. 15	158 1/2	-12	163 1/2	- 7	167 1/2	- 3	171 1/2	1	173 1/2	3	175 1/2	5
Dec.	167 5/8	Nov. 1	153 5/8	-14	157 5/8	-10	162 5/8	- 5	169 5/8	2	171 5/8	4	173 5/8	6
Mar.	165	Nov. 15	150 7/8	-14 1/8	155 7/8	- 9 1/8	160 7/8	- 4 1/8	167 7/8	2 7/8	169 7/8	4 7/8	171 7/8	6 7/8
Mar.	165	Dec. 1	150 1/4	-14 1/2	156 1/4	- 8 1/2	159 1/4	- 5 1/2	165 1/4	1/4	169 1/4	4 1/4	171 1/4	6 1/4
Mar.	167 1/8	Dec. 15	153 1/8	-14	159 1/8	- 8	162 1/8	- 5	168 1/8	1	172 1/8	5	174 1/8	7
Mar.	164 1/8	Jan. 1	150 1/8	-14	156 1/8	- 8	159 1/8	- 5	165 1/8	1	169 1/8	5	171 1/8	7
Mar.	166 3/8	Jan. 15	152 3/8	-14	156 3/8	-10	161 3/8	- 5	168 3/8	2	172 3/8	6	174 3/8	8
Mar.	168 1/4	Feb. 1	155 1/4	-13	161 1/4	- 7	163 1/4	- 3	170 1/4	2	175 1/4	7	177 1/4	9
June	168 1/4	Feb. 15	154	-14	160	- 8	162	- 6	167	-1	172	4	174	6
June	167 5/8	Mar. 1	156 1/2	-12	161 1/2	- 6	162 1/2	- 5	166 1/2	-1	172 1/2	5	176 1/2	9
June	170 7/8	Mar. 15	159 7/8	-11	164 7/8	- 6	165 7/8	- 5	169 7/8	-1	175 7/8	5	177 7/8	7
June	168 5/8	Apr. 1	158 5/8	-10	162 5/8	- 6	163 5/8	- 5	166 5/8	-2	173 5/8	5	175 3/8	7
June	163 1/2	Apr. 15	153 1/2	-10	157 1/2	- 6	158 1/2	- 5	161 1/2	-2	168 1/2	5	170 1/2	7
June	162 1/2	May 1	152 1/2	-10	156 1/2	- 6	157 1/2	- 5	160 1/2	-2	167 1/2	5	169 1/2	7
June	164 3/8	May 15	154 3/8	-10	158 3/8	- 6	159 3/8	- 5	161 3/8	-3	169 3/8	5	171 3/8	7

Minneapolis Futures, Cash Price Relationship
for Hard Red Winter Wheat
1968-69 Crop Year

Fut. Mon.	Futures	Month & Day	Cash 10% Protein	Basis 10% Protein	Cash 12% Protein	Basis 12% Protein	Cash 13% Protein	Basis 13% Protein	Cash 14% Protein	Basis 14% Protein	Cash 15% Protein	Basis 15% Protein	Cash 16% Protein	Basis 16% Protein
Dec.	153 1/8	Aug. 1	139 1/8	-14	144 1/8	-9	149 1/8	-4	151 1/8	-2	161 1/8	8	165 1/8	12
Dec.	154 1/4	Aug. 15	141	-13 1/4	149	-5 1/4	153	-1 1/4	157	2 3/4	164	9 3/4	168	13 3/4
Dec.	154 1/8	Sept. 1	142 7/8	-11 1/4	151 7/8	-2 1/4	155 7/8	1 3/4	159 7/8	5 3/4	166 7/8	12 3/4	170 7/8	16 3/4
Dec.	151 1/8	Sept. 15	140 3/4	-10 3/8	146 3/4	-4 3/8	154 3/4	3 5/8	158 3/4	7 5/8	165 3/4	14 5/8	169 3/4	18 5/8
Dec.	155 3/8	Oct. 1	145 1/4	-10 1/8	151 1/4	-4 1/8	159 1/4	3 7/8	163 1/4	7 7/8	170 1/4	14 7/8	174 1/4	18 7/8
Dec.	155 3/8	Oct. 15	145 3/8	-10	151 3/8	-4	159 3/8	4	163 3/8	8	170 3/8	15	174 3/8	19
Dec.	158 3/8	Nov. 1	148 3/8	-10	154 3/8	-4	162 3/8	4	166 3/8	8	173 3/8	15	177 3/8	19
Mar.	159 1/2	Nov. 15	150 5/8	- 8 7/8	156 5/8	-2 7/8	164 5/8	5 1/8	168 5/8	9 1/8	175 5/8	16 1/8	179 5/8	20 1/8
Mar.	157	Dec. 1	147	-10	153	-4	161	4	165	8	172	15	176	19
Mar.	158	Dec. 15	150	- 8	156	-2	162	4	166	8	173	15	177	19
Mar.	158 1/4	Jan. 1	150 1/4	- 8	156 1/4	-2	163 1/4	5	166 1/4	8	173 1/4	15	177 1/4	19
Mar.	158	Jan. 15	150	- 8	157	-1	163	5	166	8	173	15	177	19
Mar.	159 1/2	Feb. 1	151 1/2	- 8	158 1/2	-1	164 1/2	5	167 1/2	8	174 1/2	15	178 1/2	19
June	158 1/4	Feb. 15	149	- 9 1/4	156	-2 1/4	162	3 1/4	165	6 1/4	172	13 1/4	176	17 1/4
June	158 5/8	Mar. 1	147 1/4	-11 3/8	154 1/4	-4 3/8	160 1/4	1 5/8	163 1/4	4 5/8	170 1/4	11 5/8	174 1/4	15 5/8
June	157 5/8	Mar. 15	147 5/8	-10	154 5/8	-3	160 5/8	3	163 5/8	6	170 5/8	13	174 5/8	17
June	154 7/8	Apr. 1	145 3/4	- 9 1/8	152 3/4	-2 1/8	158 3/4	3 7/8	161 3/4	6 7/8	168 3/4	13 7/8	172 3/4	17 7/8
June	157 3/8	Apr. 15	147 3/8	-10	154 3/8	-3	160 3/8	3	163 3/8	6	170 3/8	13	174 3/8	17
June	155 5/8	May 1	145 5/8	-10	152 5/8	-3	158 5/8	3	162 5/8	7	169 5/8	14	173 5/8	18
June	155 7/8	May 15	146 7/8	- 9	153 7/8	-2	159 7/8	4	162 7/8	7	173 7/8	18	177 7/8	22

Minneapolis Futures, Cash Price Relationship
for Hard Red Winter Wheat
1969-70 Crop Year

Fut. Mon.	Futures	Month & Day	Cash 10% Protein	Basis 10% Protein	Cash 12% Protein	Basis 12% Protein	Cash 15% Protein	Basis 13% Protein	Cash 14% Protein	Basis 14% Protein	Cash 15% Protein	Basis 15% Protein	Cash 16% Protein	Basis 16% Protein
Dec.	152 7/8	Aug. 1	138	-14 7/8	148	- 4 7/8	154	1 1/8	159	6 1/8	172	9 1/3	181	28 1/8
Dec.	154	Aug. 15	135 1/2	-18 1/2	145 1/2	- 8 1/2	154 1/2	1/2	159 1/2	5 1/2	166 1/2	12 1/2	174 1/2	20 1/2
Dec.	158 3/4	Sept. 1	141 5/8	-17 1/8	151 5/8	- 7 1/8	159 5/8	7/8	164 5/8	5 7/8	169 5/8	10 7/8	177 5/8	18 7/8
Dec.	159 3/4	Sept. 15	142 3/4	-17	152 3/4	- 7	160 3/4	1	165 3/4	6	170 3/4	11	178 3/4	19
Dec.	164 5/8	Oct. 1	147 3/8	-17	157 3/8	- 7	165 3/8	1	170 3/8	6	175 3/8	11	183 3/8	19
Dec.	168 7/8	Oct. 15	151 7/8	-17	161 7/8	- 7	169 7/8	1	174 7/8	6	179 7/8	11	187 7/8	19
Dec.	168 7/8	Nov. 1	151 7/8	-17	161 7/8	- 7	166 7/8	- 2	168 7/8	ON	177 7/8	9	187 7/8	19
Mar.	172 1/2	Nov. 15	155 1/2	-17	165 1/2	- 7	170 1/2	- 2	172 1/2	ON	180 1/2	8	191 1/2	19
Mar.	173 5/8	Dec. 1	156 5/8	-17	166 5/8	- 7	171 5/8	- 2	173 5/8	ON	181 5/8	8	192 5/8	19
Mar.	174 1/8	Dec. 15	157 1/8	-17	167 1/8	- 7	172 1/8	- 2	174 1/8	ON	182 1/8	8	193 1/8	19
Mar.	174 3/8	Jan. 1	157 3/8	-17	166 3/8	- 8	169 3/8	- 5	173 3/8	-1	178 3/8	4	189 3/8	15
Mar.	177 3/8	Jan. 15	160 3/8	-17	168 3/8	- 9	169 3/8	- 8	175 3/8	-2	181 3/8	4	192 3/8	15
Mar.	172 1/2	Feb. 1	154 1/2	-18	158 1/2	-14	159 1/2	-13	167 1/2	-5	176 1/2	4	187 1/2	15
June	175 3/8	Feb. 15	155 1/2	-19 7/8	158 1/2	-16 7/8	161 1/2	-13 7/8	168 1/2	-6 7/8	176 1/2	1 1/8	187 1/2	12 1/8
June	173 5/8	Mar. 1	152 5/8	-21	159 5/8	-14	162 5/8	-11	168 5/8	-5	174 5/8	1	184 5/8	11
June	172 1/8	Mar. 15	151 1/8	-21	157 1/8	-15	160 1/8	-12	167 1/8	-5	173 1/8	1	183 1/8	11
June	172 5/8	Apr. 1	151 5/8	-21	157 5/8	-15	162 5/8	-10	169 5/8	-3	175 5/8	3	183 5/8	11
June	174 5/8	Apr. 15	153 5/8	-21	160 5/8	-14	165 5/8	- 9	173 5/8	-1	177 5/8	3	185 5/8	11
June	173 5/8	May 1	152 5/8	-21	159 5/8	-14	166 5/8	- 7	175 5/8	2	176 5/8	3	184 5/8	11
June	170 5/8	May 15	149 5/8	-21	158 5/8	-12	164 5/8	- 6	172 5/8	2	178 5/8	8	181 5/8	11

Minneapolis Futures, Cash Prices Relationship
for Hard Red Winter Wheat
1970-71 Crop Year

Fut. Mon.	Futures	Month & Day	Cash 10% Protein	Basis 10% Protein	Cash 12% Protein	Basis 12% Protein	Cash 13% Protein	Basis 13% Protein	Cash 14% Protein	Basis 14% Protein	Cash 15% Protein	Basis 15% Protein	Cash 16% Protein	Basis 16% Protein
Dec.	172 3/4	Aug. 1	150 1/2	-22 1/4	158 1/2	-14 1/4	167 1/2	- 5 1/4	173 1/2	3/4	178 1/2	5 3/4	185 1/2	12 3/4
Dec.	174 3/4	Aug. 15	152 1/2	-22 1/4	161 1/2	-13 1/4	170 1/2	- 4 1/4	175 1/2	3/4	180 1/2	5 3/4	187 1/2	12 3/4
Dec.	182 1/8	Sept. 1	181 3/8	-20 3/4	171 5/8	-10 3/4	180 3/8	- 1 3/4	185 3/8	3 1/4	189 3/8	7 1/4	196 3/8	14 1/4
Dec.	188	Sept. 15	167	-21	177	-11	185	- 3	190	2	192	4	196	8
Dec.	185 1/2	Oct. 1	165 1/2	-21	173 1/2	-13	179 1/2	- 7	182 1/2	-4	184 1/2	-2	192 1/2	6
Dec.	194	Oct. 15	173	-21	181	-13	185	- 9	188	-6	191	-3	200	6
Dec.	191 1/2	Nov. 1	170 1/2	-21	175 1/2	-16	177 1/2	-14	183 1/2	-8	188 1/2	-3	197 1/2	6
Mar.	189 1/2	Nov. 15	165 7/8	-23 5/8	172 7/8	-16 5/8	174 7/8	-14 5/8	180 7/8	-8 5/8	184 7/8	-4 5/8	192 7/8	3 3/8
Mar.	190	Dec. 1	164 5/8	-25 3/8	173 5/8	-16 3/8	175 5/8	-14 3/8	180 5/8	-9 3/8	184 5/8	-5 3/8	191 5/8	1 5/8
Mar.	186 1/4	Dec. 15	160 1/4	-26	170 1/4	-16	172 1/4	-14	177 1/4	-9	181 1/4	-5	187 1/4	1
Mar.	185 3/4	Jan. 1	163 3/4	-22	171 3/4	-14	175 3/4	-10	178 3/4	-7	180 3/4	-5	185 3/4	ON
Mar.	184 1/4	Jan. 15	171 1/4	-13	175 1/4	- 9	179 1/4	- 5	181 1/4	-3	184 1/4	ON	187 1/4	3
Mar.	177 5/8	Feb. 1	164 5/8	-13	169 5/8	- 8	172 5/8	- 5	175 5/8	-2	178 5/8	1	180 5/8	3
May	178 1/2	Feb. 15	163 3/8	-15 1/8	168 3/8	-10 1/8	171 3/8	- 7 1/8	174 3/8	-4 1/8	177 3/8	-1 1/8	179 3/8	7/8
May	175 1/2	Mar. 1	163 1/2	-13	168 1/2	- 8	172 1/2	- 4	175 1/2	-1	178 1/2	2	180 1/2	4
May	173 5/8	Mar. 15	160 5/8	-13	168 5/8	- 5	172 5/8	- 1	173 5/8	ON	178 5/8	5	180 5/8	7
May	171 1/2	Apr. 1	158 1/2	-13	166 1/2	- 5	170 1/2	- 1	172 1/2	1	176 1/2	5	178 1/2	7
July	173 7/8	Apr. 15	160 5/8	-13 1/4	169 5/8	- 4 1/4	171 5/8	- 2 1/4	173 5/8	- 1/4	178 5/8	4 3/4	180 5/8	6 3/4
July	167 3/8	May 1	155 1/8	-12 1/4	166 1/8	- 1 1/4	168 1/8	3/4	171 1/8	3 3/4	174 1/8	6 3/4	175 1/8	7 3/4
July	165 3/8	May 15	155 3/4	- 9 5/8	166 3/4	1 3/8	168 3/4	3 3/8	171 3/4	6 3/8	174 3/4	9 3/4	176 3/4	11 3/4

Minneapolis Futures, Cash Price Relationship
for Hard Red Winter Wheat
1971-72 Crop Year

Fut. Mon.	Futures	Month & Day	Cash 10% Protein	Basis 10% Protein	Cash 12% Protein	Basis 12% Protein	Cash 13% Protein	Basis 13% Protein	Cash 14% Protein	Basis 14% Protein	Cash 15% Protein	Basis 15% Protein	Cash 16% Protein	Basis 16% Protein
Dec.	158 3/4	Aug. 1	152 1/2	-6 1/4	155 1/2	-3 1/4	157 1/2	-1 1/4	158 1/2	- 1/4	160 1/2	1 3/4	165 1/2	6 3/4
Dec.	157 3/8	Aug. 15	151 1/8	-6 1/4	154 1/8	-3 1/4	156 1/8	-1 1/4	157 1/8	- 1/4	159 1/8	1 3/4	164 1/8	6 3/4
Dec.	159 1/8	Sept. 1	152 3/4	-6 3/8	154 3/4	-4 3/8	157 3/4	-1 3/8	159 3/4	5/8	162 3/4	3 5/8	165 3/4	6 5/8
Dec.	158 7/8	Sept. 15	152 7/8	-6	154 7/8	-4	157 7/8	-1	159 7/8	1	162 7/8	4	165 7/8	7
Dec.	157 7/8	Oct. 1	151 7/8	-6	153 7/8	-4	156 7/8	-1	158 7/8	1	161 7/8	4	164 7/8	7
Dec.	159	Oct. 15	154	-5	156	-3	161	2	162	4	171	12	173	14
Dec.	157 3/8	Nov. 1	154 3/8	-3	156 3/8	-1	160 3/8	3	161 3/8	4	169 3/8	12	171 3/8	14
Mar.	158 5/8	Nov. 15	152 1/2	-6 1/8	154 1/2	-4 1/8	158 1/2	- 1/8	161 1/2	2 7/8	169 1/2	10 7/8	173 1/2	14 7/8
Mar.	157 1/2	Dec. 1	150 1/2	-7	154 1/2	-3	156 1/2	-1	159 1/2	2	167 1/2	10	171 1/2	14
Mar.	162 5/8	Dec. 15	155 5/8	-7	159 5/8	-3	161 5/8	-1	164 5/8	2	172 5/8	10	176 5/8	14
Mar.	160	Jan. 1	155	-5	159	-1	162	2	163	3	170	10	174	14
Mar.	159 3/4	Jan. 15	154 3/4	-5	160 3/4	1	161 3/4	2	162 3/4	3	169 3/4	10	173 3/4	14
Mar.	156 3/4	Feb. 1	151 3/4	-5	157 3/4	1	158 3/4	2	159 3/4	3	166 3/4	10	170 3/4	14
May	159 3/4	Feb. 15	152 1/4	-7 1/2	157 1/4	-2 1/2	158 1/4	-1 1/2	160 1/4	1/2	165 1/4	6 1/2	170 1/4	10 1/2
May	158 1/4	Mar. 1	150 5/8	-7 5/8	155 5/8	-2 5/8	156 5/8	-1 5/8	158 5/8	3/8	164 5/8	6 3/8	168 5/8	10 3/8
May	158 3/8	Mar. 15	151 3/8	-7	157 3/8	-1	158 3/8	0N	160 3/8	2	165 3/8	7	169 3/8	11
May	159 1/8	Apr. 1	153 1/8	-6	159 1/8	0N	160 1/8	1	161 1/8	2	166 1/8	7	170 1/8	11
July	159 3/4	Apr. 15	151 1/2	-8 1/4	157 1/2	-2 1/4	158 1/2	-1 1/4	159 1/2	- 1/4	164 1/2	4 3/4	168 1/2	8 3/4
July	157 1/4	May 1	152 3/4	-4 1/2	158 3/4	1 1/2	159 3/4	2 1/2	160 3/4	3 1/2	165 3/4	8 1/2	169 3/4	12 1/2
July	155 1/2	May 15	151 1/2	-4	157 1/2	2	158 1/2	3	159 1/2	4	164 1/2	9	168 1/2	13

Kansas City Futures, Minneapolis Cash Price
Relationship for Hard Red Winter Wheat
1962-63 Crop Year

Fut. Mon.	Futures	Month & Day	Cash 10% Protein	Basis 10% Protein	Cash 12% Protein	Basis 12% Protein	Cash 13% Protein	Basis 13% Protein	Cash 14% Protein	Basis 14% Protein	Cash 15% Protein	Basis 15% Protein	Cash 16% Protein	Basis 16% Protein
Dec.	220 1/4	Aug. 1	229 3/8	9 1/8	233 3/8	13 1/8	235 3/8	15 1/8	238 3/8	18 1/8	242 3/8	22 1/8	246 3/8	25 1/8
Dec.	216 3/8	Aug. 15	222 1/8	5 3/4	226 1/8	9 3/4	228 1/8	11 3/4	230 1/8	13 3/4	233 1/8	16 3/4	236 1/8	19 3/4
Dec.	216	Sept. 1	220 3/8	4 3/8	228 3/8	12 3/8	230 3/8	14 3/8	232 3/8	16 3/8	237 3/8	21 3/8	242 3/8	26 3/8
Dec.	213 7/8	Sept. 15	218 1/8	4 1/4	228 1/8	14 1/4	230 1/8	16 1/4	232 1/8	18 1/4	237 1/8	23 1/4	242 1/8	28 1/4
Dec.	207 1/4	Oct. 1	216 7/8	9 5/8	227 7/8	20 5/8	228 7/8	21 5/8	232 7/8	25 5/8	237 7/8	30 5/8	242 7/8	35 5/8
Dec.	212	Oct. 15	217 7/8	5 7/8	228 7/8	16 7/8	231 7/8	19 7/8	233 7/8	26 7/8	246 7/8	34 7/8	254 7/8	42 7/8
Dec.	214 3/8	Nov. 1	221 1/4	6 7/8	234 1/4	19 7/8	237 1/4	22 7/8	244 1/4	29 7/8	252 1/4	37 7/8	260 1/4	45 7/8
Mar.	214 1/8	Nov. 15	222 7/8	8 3/4	235 7/8	21 3/4	238 7/8	24 3/4	245 7/8	31 3/4	253 7/8	39 3/4	261 7/8	47 3/4
Mar.	216 1/2	Dec. 1	222 1/4	5 3/4	234 1/4	17 3/4	237 1/4	20 3/4	244 1/4	27 3/4	252 1/4	35 3/4	260 1/4	43 3/4
Mar.	216 1/8	Dec. 15	221 3/4	5	233 3/4	17	236 3/4	20	243 3/4	27	251 3/4	35	259 3/4	43
Mar.	215 7/8	Jan. 1	220 1/8	4 1/4	232 1/8	16 1/4	235 1/8	19 1/4	242 1/8	26 1/4	250 1/8	34 1/4	258 1/8	42 1/4
Mar.	215 1/4	Jan. 15	221 1/4	6	233 1/4	18	236 1/4	21	243 1/4	28	251 1/4	36	259 1/4	44
Mar.	217 1/2	Feb. 1	221 3/4	4 1/4	233 3/4	16 1/4	236 3/4	19 1/4	242 3/4	25 1/4	250 3/4	33 1/4	258 3/4	41 1/4
May	211 5/8	Feb. 15	223	11 3/8	235	23 3/8	238	26 3/8	244	32 3/8	252	40 3/8	260	48 3/8
May	212 7/8	Mar. 1	225 1/8	12 1/4	237 1/8	24 1/4	240 1/8	27 1/4	246 1/8	33 1/4	254 1/8	41 1/4	262 1/8	49 1/4
May	213 7/8	Mar. 15	224 7/8	11	236 7/8	23	239 7/8	26	244 7/8	31	249 7/8	36	254 7/8	41
May	217	Apr. 1	225 5/8	8 5/8	237 5/8	20 5/8	240 5/8	23 5/8	243 5/8	26 5/8	247 5/8	30 5/8	254 5/8	37 5/8
July	193 7/8	Apr. 15	227 1/2	37 5/8	239 1/2	45 5/8	242 1/2	48 5/8	245 1/2	51 5/8	249 1/2	55 5/8	256 1/2	62 5/8
July	197 1/8	May 1	228	50 7/8	240	42 7/8	242	44 7/8	245	47 7/8	250	52 7/8	257	59 7/8
July	195 5/8	May 15	227 1/8	31 1/2	239 1/8	43 1/2	241 1/8	45 1/2	242 1/8	46 1/2	246 1/8	50 1/2	250 1/8	54 1/2

Kansas City Futures, Minneapolis Cash Price
Relationship for Hard Red Winter Wheat
1963-64 Crop Year

Fut. Mon.	Futures	Month & Day	Cash 10% Protein	Basis 10% Protein	Cash 12% Protein	Basis 12% Protein	Cash 13% Protein	Basis 13% Protein	Cash 14% Protein	Basis 14% Protein	Cash 15% Protein	Basis 15% Protein	Cash 16% Protein	Basis 16% Protein
Dec.	194 1/4	Aug. 1	197 3/8	3 1/8	205 3/8	11 1/8	207 3/8	13 1/8	209 3/8	15 1/8	211 3/8	17 1/8	213 3/8	19 1/8
Dec.	195 3/4	Aug. 15	199	3 1/4	207	11 1/4	209	13 1/4	211	15 1/4	216	20 1/4	218	22 1/4
Dec.	196 7/8	Sept. 1	206 3/4	9 7/8	219 3/4	22 7/8	221 3/4	24 7/8	223 3/4	26 7/8	228 3/4	31 7/8	230 3/4	33 7/8
Dec.	200	Sept. 15	213 1/4	13 1/4	223 1/4	23 1/4	225 1/4	25 1/4	227 1/4	27 1/4	232 1/4	32 1/4	234 1/4	34 1/4
Dec.	207 1/4	Oct. 1	216 3/8	9 1/8	224 3/8	17 1/8	226 3/8	19 1/8	228 3/8	21 1/8	233 3/8	26 1/8	235 3/8	28 1/8
Dec.	209 3/4	Oct. 15	216 1/2	6 3/4	221 1/2	11 3/4	223 1/2	13 3/4	225 1/2	15 3/4	230 1/2	20 3/4	232 1/2	22 3/4
Dec.	214 3/4	Nov. 1	216 7/8	2 1/8	221 7/8	7 1/8	223 7/8	9 1/8	225 7/8	11 1/8	230 7/8	16 1/8	232 7/8	18 1/8
Mar.	210 5/8	Nov. 15	214 1/8	3 1/2	219 1/8	8 1/2	221 1/8	10 1/2	223 1/8	12 1/2	228 1/8	17 1/2	230 1/8	19 1/2
Mar.	210 3/4	Dec. 1	214 1/2	3 3/4	219 1/2	8 3/4	221 1/2	10 3/4	223 1/2	12 3/4	228 1/2	17 3/4	230 1/2	19 3/4
Mar.	213 3/4	Dec. 15	218 1/4	4 1/2	225 1/4	11 1/2	227 1/4	13 1/2	229 1/4	15 1/2	231 1/4	17 1/2	233 1/4	19 1/2
Mar.	214 5/8	Jan. 1	217 1/8	2 1/2	224 1/8	9 1/2	226 1/8	11 1/2	228 1/8	13 1/2	230 1/8	15 1/2	232 1/8	17 1/2
Mar.	217	Jan. 15	217 3/4	3/4	224 3/4	7 3/4	226 3/4	9 3/4	228 3/4	11 3/4	230 3/4	13 3/4	232 3/4	15 3/4
Mar.	215 5/8	Feb. 1	214 1/2	- 1 1/8	221 1/2	5 7/8	223 1/2	7 7/8	225 1/2	9 7/8	227 1/2	11 7/8	229 1/2	13 7/8
May	207 1/4	Feb. 15	215 1/2	8 1/4	222 1/2	15 1/4	224 1/2	17 1/4	226 1/2	19 1/4	228 1/2	21 1/4	230 1/2	23 1/4
May	194 3/4	Mar. 1	210 3/8	15 5/8	218 3/8	23 5/8	220 3/8	25 5/8	222 3/8	27 5/8	224 3/8	29 5/8	226 3/8	31 5/8
May	185 3/8	Mar. 15	203	17 5/8	211	25 5/8	213	27 5/8	215	29 5/8	217	31 5/8	219	33 5/8
May	193 1/2	Apr. 1	207 1/2	14	215 1/2	22	217 1/2	24	219 1/2	26	221 1/2	28	223 1/2	30
July	155 1/4	Apr. 15	211 3/4	56 1/2	220 3/4	65 1/2	220 3/4	65 1/2	220 3/4	65 1/2	220 3/4	65 1/2	222 3/4	67 1/2
July	156 1/4	May 1	219 5/8	63 3/8	228 5/8	72 3/8	228 5/8	72 3/8	228 5/8	72 3/8	228 5/8	72 3/8	230 5/8	74 3/8
July	153 7/8	May 15	221	67 1/8	226	72 1/8	226	72 1/8	226	72 1/8	226	72 1/8	228	74 1/8

Kansas City Futures, Minneapolis Cash Price
Relationship for Hard Red Winter Wheat
1964-65 Crop Year

Put. Mon.	Futures	Month & Day	Cash 10% Protein	Basis 10% Protein	Cash 12% Protein	Basis 12% Protein	Cash 13% Protein	Basis 13% Protein	Cash 14% Protein	Basis 14% Protein	Cash 15% Protein	Basis 15% Protein	Cash 16% Protein	Basis 16% Protein
Dec.	151 7/8	Aug. 1	155	3 1/8	159	7 1/8	160	8 1/8	161	9 1/8	162	10 1/8	163	11 1/8
Dec.	153 1/8	Aug. 15	158 1/4	5 1/8	162 1/4	9 1/8	163 1/4	10 1/8	164 1/4	11 1/8	165 1/4	12 1/8	166 1/4	13 1/8
Dec.	154 1/2	Sept. 1	167 1/2	13	169 1/2	15	169 1/2	15	170 1/2	16	171 1/2	17	172 1/2	18
Dec.	155 7/8	Sept. 15	169 7/8	14	171 7/8	16	171 7/8	16	172 7/8	17	173 7/8	18	174 7/8	19
Dec.	154 3/4	Oct. 1	170 5/8	15 7/8	172 5/8	17 7/8	172 5/8	17 7/8	173 5/8	18 7/8	174 5/8	19 7/8	175 5/8	20 7/8
Dec.	157 1/4	Oct. 15	172 5/8	15 3/8	174 5/8	17 3/8	175 5/8	18 3/8	176 5/8	19 3/8	177 5/8	20 3/8	178 5/8	21 3/8
Dec.	159 3/8	Nov. 1	170 3/4	11 3/8	172 3/4	13 3/8	173 3/4	14 3/8	174 3/4	15 3/8	175 3/4	16 3/8	176 3/4	17 3/8
Mar.	158 1/8	Nov. 15	171	12 7/8	173	14 7/8	174	15 7/8	175	16 7/8	176	17 7/8	177	18 7/8
Mar.	158 3/4	Dec. 1	171 1/8	12 3/8	173 1/8	14 3/8	174 1/8	15 3/8	175 1/8	16 3/8	176 1/8	17 3/8	177 1/8	18 3/8
Mar.	157 1/8	Dec. 15	168 1/4	11 1/8	170 1/4	13 1/8	171 1/4	14 1/8	172 1/4	15 1/8	173 1/4	16 1/8	174 1/4	17 1/8
Mar.	154 1/4	Jan. 1	168 3/4	14 1/2	170 3/4	16 1/2	171 3/4	17 1/2	172 3/4	18 1/2	173 3/4	19 1/2	174 3/4	20 1/2
Mar.	153 7/8	Jan. 15	169	15 1/8	171	17 1/8	172	18 1/8	173	19 1/8	174	20 1/8	175	21 1/8
Mar.	156 3/4	Feb. 1	170 1/8	13 3/8	172 1/8	15 3/8	173 1/8	16 3/8	174 1/8	17 3/8	175 1/8	18 3/8	176 1/8	19 3/8
May	151 1/4	Feb. 15	166 5/8	15 3/8	168 5/8	17 3/8	169 5/8	18 3/8	170 5/8	19 3/8	171 5/8	20 3/8	172 5/8	21 3/8
May	150 7/8	Mar. 1	167 1/2	16 5/8	169 1/2	18 5/8	170 1/2	19 5/8	172 1/2	21 5/8	173 1/2	22 5/8	174 1/2	23 5/8
May	148 1/4	Mar. 15	152 5/8	14 3/8	164 5/8	15 3/8	165 5/8	18 3/8	168 5/8	20 3/8	169 5/8	21 3/8	170 5/8	22 3/8
May	146 3/8	Apr. 1	163	16 5/8	164	17 5/8	167	20 5/8	169	22 5/8	170	23 5/8	171	24 5/8
July	144 3/4	Apr. 15	166 1/8	21 3/8	167 1/8	22 3/8	170 1/8	25 3/8	172 1/8	27 3/8	173 1/8	28 3/8	174 1/8	29 3/8
July	142 1/4	May 1	163 1/4	21	164 1/4	22	167 1/4	25	169 1/4	27	170 1/4	28	171 1/4	29
July	141 7/8	May 15	166	24 1/8	168	26 1/8	171	29 1/8	173	31 1/8	174	32 1/8	175	33 1/8

Kansas City Futures, Minneapolis Cash Price
Relationship for Hard Red Winter Wheat
1955-56 Crop Year

Fut. Mon.	Futures	Month & Day	Cash 10% Protein	Basis 10% Protein	Cash 12% Protein	Basis 12% Protein	Cash 13% Protein	Basis 13% Protein	Cash 14% Protein	Basis 14% Protein	Cash 15% Protein	Basis 15% Protein	Cash 16% Protein	Basis 16% Protein
Dec.	147 3/4	Aug. 1	160 1/2	12 3/4	164 1/2	16 3/4	170 1/2	22 3/4	173 1/2	25 3/4	176 1/2	28 3/4	178 1/2	30 3/4
Dec.	153 5/8	Aug. 15	154 1/4	5/8	167 1/4	13 5/8	171 1/4	17 5/8	174 1/4	20 5/8	178 1/4	24 5/8	182 1/4	28 5/8
Dec.	154 7/8	Sept. 1	163 1/8	8 1/4	174 1/8	19 1/4	178 1/8	23 1/4	181 1/8	26 1/4	185 1/8	30 1/4	189 1/8	34 1/4
Dec.	152 1/2	Sept. 15	162 1/2	10	173 1/2	21	177 1/2	25	180 1/2	28	184 1/2	32	188 1/2	36
Dec.	155 1/8	Oct. 1	163	7 7/8	174	18 7/8	178	22 7/8	181	25 7/8	185	29 7/8	189	33 7/8
Dec.	154	Oct. 15	159 7/8	5 7/8	170 7/8	16 7/8	174 7/8	20 7/8	177 7/8	23 7/8	181 7/8	27 7/8	185 7/8	31 7/8
Dec.	157 7/8	Nov. 1	161 1/4	3 3/8	172 1/4	14 3/8	176 1/4	18 3/8	179 1/4	21 3/8	183 1/4	25 3/8	187 1/4	29 3/8
Mar.	158 1/4	Nov. 15	156 7/8	- 1 3/8	167 7/8	9 5/8	171 7/8	13 5/8	174 7/8	16 5/8	178 7/8	20 5/8	182 7/8	24 5/8
Mar.	157 1/4	Dec. 1	157 1/4	ON	168 1/4	11	172 1/4	15	175 1/4	18	179 1/4	22	183 1/4	26
Mar.	159 1/4	Dec. 15	161	1 3/4	172	12 3/4	176	16 3/4	179	19 3/4	183	23 3/4	187	27 3/4
Mar.	159 3/4	Jan. 1	159 1/2	- 1/4	172 1/2	12 3/4	176 1/2	16 3/4	179 1/2	19 3/4	183 1/2	23 3/4	187 1/2	27 3/4
Mar.	160 5/8	Jan. 15	164 3/8	3 3/4	175 3/8	14 3/4	179 3/8	18 3/4	182 3/8	21 3/4	186 3/8	25 3/4	190 3/8	29 3/4
Mar.	159 3/4	Feb. 1	165 5/8	5 7/8	176 5/8	16 7/8	180 5/8	20 7/8	183 5/8	23 7/8	187 5/8	27 7/8	191 5/8	31 7/8
May	159 5/8	Feb. 15	165 3/8	5 3/4	176 3/8	16 3/4	180 3/8	20 3/4	183 3/8	23 3/4	187 3/8	27 3/4	191 3/8	31 3/4
May	156 5/8	Mar. 1	163 3/4	7 1/8	174 3/4	18 1/8	178 3/4	22 1/8	181 3/4	25 1/8	185 3/4	29 1/8	189 3/4	33 1/8
May	156 1/2	Mar. 15	162 5/8	6 1/8	173 5/8	17 1/8	177 5/8	21 1/8	180 5/8	24 1/8	184 5/8	28 1/8	188 5/8	32 1/8
May	153 3/8	Apr. 1	159 7/8	6 1/2	170 7/8	17 1/2	172 7/8	19 1/2	176 7/8	23 1/2	181 7/8	28 1/2	185 7/8	32 1/2
July	154 1/4	Apr. 15	162 3/8	8 1/8	173 3/8	19 1/8	175 3/8	21 1/8	179 3/8	25 1/8	184 3/8	30 1/8	188 3/8	34 1/8
July	157 1/2	May 1	166 5/8	9 1/8	177 5/8	20 1/8	179 5/8	22 1/8	183 5/8	26 1/8	188 5/8	31 1/8	192 5/8	35 1/8
July	163 3/8	May 15	167 3/8	4	178 3/8	15	180 3/8	17	184 3/8	21	189 3/8	26	193 3/8	30

Kansas City Futures, Minneapolis Cash Price
Relationship for Hard Red Winter Wheat
1966-67 Crop Year

Fut. Mar.	Futures	Month & Day	Cash 10% Protein	Basis 10% Protein	Cash 12% Protein	Basis 12% Protein	Cash 13% Protein	Basis 13% Protein	Cash 14% Protein	Basis 14% Protein	Cash 15% Protein	Basis 15% Protein	Cash 16% Protein	Basis 16% Protein
Dec.	193 1/4	Aug. 1	192 1/4	- 1	195 1/4	2	196 1/4	3	197 1/4	4	199 1/4	6	201 1/4	8
Dec.	195 3/8	Aug. 15	199 1/2	4 1/8	202 1/2	7 1/8	203 1/2	8 1/8	205 1/2	10 1/8	207 1/2	12 1/8	209 1/2	14 1/8
Dec.	194 1/8	Sept. 1	196	1 7/8	199	4 7/8	200	5 7/8	200	5 7/8	201	6 7/8	202	7 7/8
Dec.	195 7/8	Sept. 15	198 7/8	3	201 7/8	6	202 7/8	7	202 7/8	7	203 7/8	8	204 7/8	9
Dec.	177	Oct. 1	188 3/8	11 3/8	191 3/8	14 3/8	192 3/8	15 3/8	192 3/8	15 3/8	193 3/8	16 3/8	194 3/8	17 3/8
Dec.	176 3/4	Oct. 15	189 1/4	12 1/2	192 1/4	15 1/2	193 1/4	16 1/2	193 1/4	16 1/2	194 1/4	17 1/2	195 1/4	18 1/2
Dec.	173 1/4	Nov. 1	178 1/2	5 1/4	181 1/2	8 1/4	182 1/2	9 1/4	182 1/2	9 1/4	183 1/2	10 1/4	184 1/2	11 1/4
Mar.	179	Nov. 15	182 3/4	3 3/4	185 3/4	6 3/4	186 3/4	7 3/4	186 3/4	7 3/4	187 3/4	8 3/4	188 3/4	9 3/4
Mar.	185 3/4	Dec. 1	189 1/4	3 1/2	192 1/4	6 1/2	193 1/4	7 1/2	193 1/4	7 1/2	193 1/4	7 1/2	194 1/4	8 1/2
Mar.	184 1/4	Dec. 15	184 5/8	3/8	186 5/8	2 3/8	187 5/8	3 3/8	187 5/8	3 3/8	188 5/8	4 3/8	188 5/8	4 3/8
Mar.	176 1/2	Jan. 1	176 5/8	1/8	173 5/8	2 1/8	179 5/8	3 1/8	179 5/8	3 1/8	180 5/8	4 1/8	180 5/8	4 1/8
Mar.	171	Jan. 15	176 3/8	5 3/8	178 3/8	7 3/8	179 3/8	8 3/8	179 3/8	8 3/8	180 3/8	9 3/8	180 3/8	9 3/8
Mar.	164 1/2	Feb. 1	172	7 1/2	174	9 1/2	175	10 1/2	175	10 1/2	175	10 1/2	176	11 1/2
May	166 5/8	Feb. 15	179 1/2	12 7/8	179 1/2	12 7/8	180 1/2	13 7/8	180 1/2	13 7/8	180 1/2	13 7/8	181 1/2	14 7/8
May	178 1/8	Mar. 1	185 5/8	7 1/2	185 5/8	7 5/8	186 5/8	8 5/8	186 5/8	8 5/8	186 5/8	8 5/8	187 5/8	8 5/8
May	184 1/4	Mar. 15	189 7/8	5 5/8	190 7/8	6 5/8	190 7/8	6 5/8	190 7/8	6 5/8	190 7/8	6 5/8	190 7/8	6 5/8
May	177 1/4	Apr. 1	182 1/4	5	183 1/4	6	183 1/4	6	183 1/4	6	183 1/4	6	183 1/4	6
July	172 7/8	Apr. 15	179 3/4	5 7/8	180 3/4	6 7/8	180 3/4	6 7/8	180 3/4	6 7/8	180 3/4	6 7/8	180 3/4	6 7/8
July	173 3/4	May 1	184	10 1/4	185	11 1/4	185	11 1/4	185	11 1/4	185	11 1/4	185	11 1/4
July	174 1/2	May 15	184 5/8	10 1/8	185 5/8	11 1/8	185 5/8	11 1/8	185 5/8	11 1/8	185 5/8	11 1/8	185 5/8	11 1/8

Kansas City Futures, Minneapolis Cash Price
Relationship for Hard Red Winter Wheat
1967-68 Crop Year

Fut. Mon.	Futures	Month & Day	Cash 10% Protein	Basis 10% Protein	Cash 12% Protein	Basis 12% Protein	Cash 13% Protein	Basis 13% Protein	Cash 14% Protein	Basis 14% Protein	Cash 15% Protein	Basis 15% Protein	Cash 16% Protein	Basis 16% Protein
Dec.	160 1/2	Aug. 1	165 1/4	4 3/4	167 1/4	6 3/4	168 1/4	7 3/4	169 1/4	8 3/4	170 1/4	9 3/4	171 1/4	10 3/4
Dec.	157 1/8	Aug. 15	157 3/8	1/4	159 3/8	2 1/4	160 3/8	3 1/4	162 3/8	5 1/4	164 3/8	7 1/4	165 3/8	8 1/4
Dec.	153 1/2	Sept. 1	156 1/8	2 5/8	159 1/8	5 5/8	160 1/8	6 5/8	162 1/8	8 5/8	164 1/8	10 5/8	165 1/8	11 5/8
Dec.	155 1/2	Sept. 15	156	1/2	162	6 1/2	165	9 1/2	167	11 1/2	169	13 1/2	171	15 1/2
Dec.	156 3/8	Oct. 1	158 5/8	2 1/4	163 5/8	7 1/4	167 5/8	11 1/4	171 5/8	15 1/4	173 5/8	17 1/4	175 5/8	19 1/4
Dec.	157 1/8	Oct. 15	158 1/2	1 3/8	163 1/2	6 3/8	167 1/2	10 3/8	171 1/2	14 3/8	173 1/2	16 3/8	175 1/2	18 3/8
Dec.	153 1/4	Nov. 1	153 5/8	3/8	157 5/8	4 3/8	162 5/8	9 3/8	169 5/8	16 3/8	171 5/8	18 3/8	173 5/8	20 3/8
Mar.	152 5/8	Nov. 15	150 7/8	-1 3/4	155 7/8	3 1/4	160 7/8	8 1/4	167 7/8	15 1/4	169 7/8	17 1/4	171 7/8	19 1/4
Mar.	153 5/8	Dec. 1	150 1/4	-3 3/8	156 1/4	2 5/8	159 1/4	5 5/8	165 1/4	11 5/8	169 1/4	15 5/8	171 1/4	17 5/8
Mar.	154	Dec. 15	153 1/8	- 7/8	159 1/8	5 1/8	162 1/8	8 1/8	163 1/8	14 1/8	172 1/8	18 1/8	174 1/8	20 1/8
Mar.	149 3/4	Jan. 1	150 1/8	3/8	156 1/8	6 3/8	159 1/8	9 3/8	165 1/8	15 3/8	169 1/8	19 3/8	171 1/8	21 3/8
Mar.	154 1/8	Jan. 15	152 3/8	-1 3/4	158 3/8	4 1/4	161 3/8	7 1/4	164 3/8	10 1/4	172 3/8	18 1/4	174 3/8	20 1/4
Mar.	157 3/4	Feb. 1	155 1/4	-2 1/2	161 1/4	3 1/2	163 1/4	5 1/2	170 1/4	12 1/2	175 1/4	17 1/2	177 1/4	19 1/2
May	153 3/4	Feb. 15	154	1/4	160	6 1/4	162	8 1/4	167	13 1/4	172	18 1/4	174	20 1/4
May	152 7/8	Mar. 1	156 1/2	2 5/8	161 1/2	7 5/8	162 5/8	8 5/8	167 5/8	13 5/8	172 5/8	18 5/8	174 1/2	18 5/8
May	157	Mar. 15	159 7/8	2 7/8	164 7/8	7 7/8	165 7/8	8 7/8	169 7/8	12 7/8	175 7/8	13 7/8	177 7/8	20 7/8
May	153	Apr. 1	158 5/8	5 5/8	162 5/8	9 5/8	163 5/8	10 5/8	166 5/8	13 5/8	173 5/8	20 5/8	175 5/8	22 5/8
July	145 3/4	Apr. 15	153 1/2	7 3/4	157 1/2	11 3/4	158 1/2	12 3/4	161 1/2	15 3/4	168 1/2	22 3/4	170 1/2	24 3/4
July	144 1/2	May 1	152 1/2	8	156 1/2	12	157 1/2	13	160 1/2	16	167 1/2	23	169 1/2	25
July	145 1/4	May 15	154 3/8	9 1/8	158 3/8	13 1/8	159 3/8	14 1/8	161 3/8	16 1/8	169 3/8	24 1/8	171 3/8	26 1/8

Kansas City Futures, Minneapolis Cash Price
Relationship for Hard Red Winter Wheat
1968-69 Crop Year

Fut. Mon.	Futures	Month & Day	Cash 10% Protein	Basis 10% Protein	Cash 12% Protein	Basis 12% Protein	Cash 13% Protein	Basis 13% Protein	Cash 14% Protein	Basis 14% Protein	Cash 15% Protein	Basis 15% Protein	Cash 16% Protein	Basis 16% Protein
Dec.	137 3/4	Aug. 1	139 1/8	1 3/8	144 1/8	6 3/8	149 1/8	11 3/8	151 1/8	13 3/8	161 1/8	23 3/8	165 1/8	27 3/8
Dec.	135 3/8	Aug. 15	141	5 5/8	149	13 5/8	153	17 5/8	157	21 5/8	164	28 5/8	168	32 5/8
Dec.	131 3/8	Sept. 1	142 7/8	11 1/2	151 7/8	20 1/2	155 7/8	24 1/2	159 7/8	28 1/2	166 7/8	35 1/2	170 7/8	39 1/2
Dec.	132 5/3	Sept. 15	140 3/4	8 1/8	146 3/4	14 1/8	154 3/4	22 1/8	158 3/4	26 1/8	165 3/4	33 1/8	169 3/4	37 1/8
Dec.	135 7/8	Oct. 1	145 1/4	9 3/8	151 1/4	15 3/8	159 1/4	23 3/8	163 1/4	27 3/8	170 1/4	34 3/8	174 1/4	38 3/8
Dec.	136	Oct. 15	145 3/8	9 3/8	151 3/8	15 3/8	159 3/8	23 3/8	163 3/8	27 3/8	170 3/8	34 3/8	174 3/8	38 3/8
Dec.	137 1/8	Nov. 1	148 3/8	11 1/4	154 3/8	17 1/4	162 3/8	25 1/4	166 3/8	29 1/4	173 3/8	36 1/4	177 3/8	40 1/4
May	143 1/2	Nov. 15	150 5/8	7 1/8	156 5/8	13 1/8	164 5/8	21 1/8	168 5/8	25 1/8	175 5/8	32 1/8	179 5/8	36 1/8
May	138 1/4	Dec. 1	147	8 3/4	153	14 3/4	161	22 3/4	165	26 3/4	172	33 3/4	176	37 3/4
May	137 1/2	Dec. 15	150 1/4	12 3/4	156 1/4	18 3/4	162 1/4	24 3/4	166 1/4	28 3/4	173 1/4	35 3/4	177 1/4	39 3/4
May	135 1/3	Jan. 1	150 1/4	15 1/8	156 1/4	21 1/8	163 1/4	28 1/8	166 1/4	31 1/8	173 1/4	38 1/8	177 1/4	42 1/8
May	137 7/8	Jan. 15	150	12 1/8	157	19 1/8	163	25 1/8	166	28 1/8	173	35 1/8	177	39 1/8
May	137 1/2	Feb. 1	151 1/2	14	158 1/2	21	164 1/2	27	167 1/2	30	174 1/2	37	178 1/2	41
May	136 7/8	Feb. 15	149	12 1/8	156	19 1/8	162	25 1/8	165	28 1/8	172	35 1/8	176	39 1/8
May	135 5/8	Mar. 1	147 1/4	11 5/8	154 1/4	18 5/8	160 1/4	24 5/8	163 1/4	27 5/8	170 1/4	34 5/8	174 1/4	38 5/8
May	136 3/4	Mar. 15	147 5/8	10 7/8	154 5/8	17 7/8	160 5/8	23 7/8	163 5/8	26 7/8	170 5/8	33 7/8	174 5/8	37 7/8
May	133 3/4	Apr. 1	145 3/4	12	152 3/4	19	158 3/4	25	161 3/4	28	168 3/4	35	172 3/4	39
July	132 5/8	Apr. 15	147 3/8	14 3/4	154 3/8	21 3/4	160 3/8	27 3/4	163 3/8	30 3/4	170 3/8	37 3/4	174 3/8	41 3/4
July	130 7/8	May 1	145 5/3	14 3/4	152 5/8	21 3/4	158 5/8	27 3/4	162 5/8	31 3/4	169 5/8	38 3/4	173 5/3	42 3/4
July	131 1/2	May 15	146 3/4	15 1/4	153 3/4	22 1/4	159 3/4	28 1/4	162 3/4	31 1/4	173 3/4	42 1/4	177 3/4	46 1/4

**Kansas City Futures, Minneapolis Cash Price
Relationship for Hard Red Winter Wheat
1969-70 Crop Year**

Fut. Mon.	Futures	Month & Day	Cash 10% Protein	Basis 10% Protein	Cash 12% Protein	Basis 12% Protein	Cash 13% Protein	Basis 13% Protein	Cash 14% Protein	Basis 14% Protein	Cash 15% Protein	Basis 15% Protein	Cash 16% Protein	Basis 16% Protein
Dec.	127	Aug. 1	138	11	148	21	154	27	159	32	172	45	161	54
Dec.	130 3/4	Aug. 15	135 1/2	4 3/4	145 1/2	14 3/4	154 1/2	23 3/4	159 1/2	28 3/4	166 1/2	35 3/4	174 1/2	63 3/4
Dec.	133 1/8	Sept. 1	141 5/8	8 1/2	151 5/8	18 1/2	159 5/8	26 1/2	164 5/8	31 1/2	169 5/8	36 1/2	177 5/8	44 1/2
Dec.	134 1/8	Sept. 15	142 3/4	8 5/8	152 3/4	18 5/8	160 3/4	26 5/8	165 3/4	31 5/8	170 3/4	36 5/8	178 3/4	44 5/8
Dec.	133 7/8	Oct. 1	147 3/8	13 1/2	157 3/8	23 1/2	165 3/8	31 1/2	170 3/8	36 1/2	175 3/8	41 1/2	183 3/8	49 1/2
Dec.	138 3/4	Oct. 15	151 7/8	13 1/8	161 7/8	23 1/8	169 7/8	31 1/8	174 7/8	36 1/8	179 7/8	41 1/8	187 7/8	49 1/8
Dec.	137 1/8	Nov. 1	151 7/8	14 3/4	161 7/8	24 3/4	166 7/8	29 3/4	168 7/8	31 3/4	177 7/8	40 3/4	187 7/8	50 3/4
May	137 5/8	Nov. 15	155 1/2	17 7/8	165 1/2	27 7/8	170 1/2	32 7/8	172 1/2	34 7/8	180 1/2	42 7/8	191 1/2	53 7/8
May	137 3/8	Dec. 1	156 5/8	20 1/4	166 5/8	29 1/4	171 5/8	34 1/4	173 5/8	36 1/4	181 5/8	44 1/4	192 5/8	55 1/4
May	136 3/4	Dec. 15	157 1/8	20 3/8	167 1/8	30 3/8	172 1/8	35 3/8	174 1/8	37 3/8	182 1/8	45 3/8	193 1/8	56 3/8
May	131 1/2	Jan. 1	157 3/8	25 7/8	166 3/8	34 7/8	169 3/8	37 7/8	173 3/8	41 7/8	173 3/8	46 7/8	189 3/8	57 7/8
May	135 1/4	Jan. 15	160 3/8	25 1/8	168 3/8	33 1/8	169 3/8	34 1/8	175 3/8	40 1/8	181 3/8	46 1/8	192 3/8	57 1/8
May	135	Feb. 1	154 1/2	19 1/2	158 1/2	23 1/2	159 1/2	24 1/2	167 1/2	32 1/2	176 1/2	41 1/2	187 1/2	52 1/2
May	137 1/2	Feb. 15	155 1/2	18	158 1/2	21	161 1/2	24	168 1/2	31	176 1/2	39	187 1/2	50
May	137 1/4	Mar. 1	152 5/8	15 3/8	159 5/8	22 3/8	162 5/8	25 3/8	168 5/8	31 3/8	174 5/8	37 3/8	184 5/8	47 3/8
May	137 1/2	Mar. 15	151 1/8	13 5/8	157 1/8	19 5/8	160 1/8	22 5/8	167 1/8	29 5/8	173 1/8	35 5/8	183 1/8	45 5/8
May	138 1/4	Apr. 1	151 5/8	13 3/8	157 5/8	19 3/8	162 5/8	24 3/8	169 5/8	31 3/8	175 5/8	37 3/8	183 5/8	45
July	133 7/8	Apr. 15	153 5/8	19 3/4	160 5/8	26 3/4	165 5/8	31 3/4	173 5/8	39 3/4	177 5/8	43 3/4	185 5/8	51 3/4
July	134 1/4	May 1	152 5/8	18 3/8	159 5/8	25 3/8	165 5/8	32 3/8	175 5/8	41 3/8	176 5/8	42 3/8	184 5/8	50 3/8
July	137 1/2	May 15	149 5/8	12 1/8	158 5/8	21 1/8	164 5/8	27 1/8	172 5/8	35 1/8	178 5/8	41 1/8	181 5/8	44 1/8

Kansas City Futures, Minneapolis Cash Price
Relationship for Hard Red Winter Wheat
1970-71 Crop Year

Fut. Mon.	Futures	Month & Day	Cash 10% Protein	Basis 10% Protein	Cash 12% Protein	Basis 12% Protein	Cash 13% Protein	Basis 13% Protein	Cash 14% Protein	Basis 14% Protein	Cash 15% Protein	Basis 15% Protein	Cash 16% Protein	Basis 16% Protein
Dec.	142 1/2	Aug. 1	150 3/4	8 1/4	158 3/4	16 1/4	167 3/4	25 1/4	173 3/4	31 1/4	178 3/4	36 1/4	185 3/4	43 1/4
Dec.	145 1/2	Aug. 15	152 1/2	6	161 1/2	15	170 1/2	24	175 1/2	29	180 1/2	34	187 1/2	41
Dec.	154 1/4	Sept. 1	161 3/8	7 1/8	171 3/8	17 1/8	180 3/8	26 1/8	185 3/8	31 1/8	189 3/8	35 1/8	196 3/8	42 1/8
Dec.	160 1/4	Sept. 15	167	6 3/4	177	16 3/4	185	24 3/4	190	29 3/4	192	31 3/4	196	35 3/4
Dec.	156 7/8	Oct. 1	165 1/2	8 5/8	173 1/2	16 5/8	179 1/2	22 5/8	182 1/2	25 5/8	184 1/2	27 5/8	192 1/2	35 5/8
Dec.	159 1/2	Oct. 15	173	13 1/2	181	21 1/2	185	25 1/2	188	28 1/2	191	31 1/2	200	40 1/2
Dec.	159 1/4	Nov. 1	172	12 3/4	177	17 3/4	179	19 3/4	185	25 3/4	190	30 3/4	199	39 3/4
May	164 3/4	Nov. 15	165 7/8	2 1/8	172 7/8	8 1/8	174 7/8	10 1/8	180 7/8	16 1/8	184 7/8	20 1/8	192 7/8	28 1/8
May	161 3/8	Dec. 1	164 5/8	3 1/4	173 5/8	12 1/4	175 5/8	14 1/4	180 5/8	19 1/4	184 5/8	23 1/4	191 5/8	30 1/4
May	157	Dec. 15	160 1/4	3 1/4	170 1/4	13 1/4	172 1/4	15 1/4	177 1/4	20 1/4	181 1/4	24 1/4	187 1/4	30 1/4
May	155 3/8	Jan. 1	163 3/4	8 3/8	171 3/4	16 3/8	175 3/4	20 3/8	178 3/4	23 3/8	180 3/4	25 3/8	185 3/4	30 3/8
May	155 1/2	Jan. 15	171 1/4	15 3/4	175 1/4	19 3/4	179 1/4	23 3/4	181 1/4	25 3/4	184 1/4	29 3/4	187 1/4	32 3/4
May	152	Feb. 1	164 5/8	12 5/8	169 5/8	17 5/8	172 5/8	20 5/8	175 5/8	23 5/8	178 5/8	26 5/8	180 5/8	28 5/8
May	150	Feb. 15	163 3/8	13 3/8	168 3/8	18 3/4	171 3/8	21 3/8	174 3/8	24 3/8	177 3/8	27 3/8	179 3/8	29 3/8
May	149 5/8	Mar. 1	163 1/2	13 7/8	168 1/2	18 7/8	172 1/2	22 7/8	175 1/2	25 7/8	178 1/2	28 7/8	180 1/2	30 7/8
May	148 3/8	Mar. 15	160 5/8	12 1/4	168 5/8	20 1/4	172 5/8	24 1/4	175 5/8	27 1/4	178 5/8	30 1/4	180 5/8	32 1/4
May	146 1/2	Apr. 1	158 1/2	12	166 1/2	20	170 1/2	24	172 1/2	26	176 1/2	30	178 1/2	32
July	148 1/4	Apr. 15	160 5/8	12 3/8	169 5/8	21 3/8	171 5/8	23 3/8	173 5/8	25 3/8	178 5/8	30 3/8	180 5/8	32 3/8
July	143 1/4	May 1	155 1/8	11 7/8	166 1/8	22 7/8	168 1/8	24 7/8	171 1/8	27 7/8	174 1/8	30 7/8	175 1/8	31 7/8
July	143 3/8	May 15	155 3/4	12 3/8	166 3/4	23 3/8	168 3/4	25 3/8	171 3/4	28 3/8	174 3/4	31 3/8	176 3/4	33 3/8

Kansas City Futures, Minneapolis Cash Price
Relationship for Hard Red Winter Wheat
1971-72 Crop Year

Put. Mon.	Futures	Month & Day	Cash 10% Protein	Basis 10% Protein	Cash 12% Protein	Basis 12% Protein	Cash 13% Protein	Basis 13% Protein	Cash 14% Protein	Basis 14% Protein	Cash 15% Protein	Basis 15% Protein	Cash 16% Protein	Basis 16% Protein
Dec.	144 7/8	Aug. 1	152 1/2	7 5/8	155 1/2	10 5/8	157 1/2	12 5/8	158 1/2	13 5/8	160 1/2	15 5/8	165 1/2	20 5/8
Dec.	143 3/8	Aug. 15	151 1/8	7 3/4	154 1/8	10 3/4	156 7/8	12 3/4	157 1/8	13 3/4	159 1/8	15 3/4	164 1/8	20 3/4
Dec.	142 3/4	Sept. 1	152 3/4	10	154 3/4	12	157 3/4	15	159 3/4	17	162 3/4	20	165 3/4	23
Dec.	142 5/8	Sept. 15	152 7/8	10 1/4	154 7/8	12 1/4	157 7/8	15 1/4	159 7/8	17 1/4	162 7/8	20 1/4	165 7/8	23 1/4
Dec.	144 3/8	Oct. 1	151 7/8	7 1/2	153 7/8	9 1/2	156 7/8	12 1/2	158 7/8	14 1/2	161 7/8	17 1/2	164 7/8	20 1/2
Dec.	145 7/8	Oct. 15	154	8 1/8	156	10 1/8	161	15 1/8	163	17 1/8	171	23 1/8	173	27 1/8
Dec.	146 5/8	Nov. 1	154 3/8	7 3/4	156 3/8	9 3/4	160 3/8	13 3/4	161 3/8	14 3/4	169 3/8	22 3/4	171 3/8	24 3/4
May	143 1/4	Nov. 15	152 1/2	9 1/4	154 1/2	11 1/4	158 1/2	15 1/4	161 1/2	18 1/4	169 1/2	26 1/4	173 1/2	30 1/4
May	143 1/4	Dec. 1	150 1/8	6 7/8	154 1/8	10 7/8	156 1/8	12 7/8	159 1/8	15 7/8	167 1/8	23 7/8	171 1/8	27 7/8
May	148 3/8	Dec. 15	155 5/8	7 1/4	159 5/8	11 1/4	161 5/8	13 1/4	164 5/8	16 1/4	172 5/8	24 1/4	176 5/8	28 1/4
Mar.	146 1/4	Jan. 1	154 1/4	8	156 1/4	10	161 1/4	15	162 1/4	16	169 1/4	23	173 1/4	27
Mar.	150 1/4	Jan. 15	154 3/4	4 1/2	158 3/4	8 1/2	161 3/4	11 1/2	162 3/4	12 1/2	169 3/4	19 1/2	173 3/4	23 1/2
Mar.	146 3/8	Feb. 1	151 3/4	5 3/8	157 3/4	11 3/8	158 3/4	12 3/8	159 3/4	13 3/8	166 3/4	20 3/8	170 3/4	24 3/8
May	148 1/2	Feb. 15	152 1/4	3 3/4	157 1/4	8 3/4	158 1/4	9 3/4	160 1/4	11 3/4	166 1/4	17 3/4	170 1/4	21 3/4
May	146 1/4	Mar. 1	150 5/8	4 3/8	155 5/8	9 3/8	156 5/8	10 3/8	158 5/8	12 3/8	164 5/8	18 3/8	168 5/8	22 3/8
May	148 1/2	Mar. 15	151 3/8	2 7/8	157 3/8	8 7/8	158 3/8	9 7/8	160 3/8	11 7/8	165 3/8	16 7/8	169 3/8	20 7/8
May	149 1/2	Apr. 1	153 1/8	3 5/8	159 1/8	9 5/8	160 1/8	10 5/8	161 1/8	11 5/8	166 1/8	16 5/8	170 1/8	20 5/8
July	148	Apr. 15	151 1/2	3 1/2	157 1/2	9 1/2	158 1/2	10 1/2	159 1/2	11 1/2	164 1/2	16 1/2	168 1/2	20 1/2
July	147 1/4	May 1	152 3/4	5 1/2	158 3/4	11 1/2	159 3/4	12 1/2	160 3/4	13 1/2	165 3/4	18 1/2	169 3/4	22 1/2
July	146	May 15	151 1/2	5 1/2	157 1/2	11 1/2	158 1/2	12 1/2	159 1/2	13 1/2	164 1/2	18 1/2	168 1/2	22 1/2