May 28, 1980

Dr. James E. Haskell, Director
Cooperative Marketing and Purchasing Division
ESCS, USDA
Washington, D.C. 20250

Dear Jim:

I have conducted a somewhat hurried review of Charlie Ling's paper, "Pricing Impact of a Cooperative Electronic Cotton Marketing System: The Price Discovery Function of Telcot." Since you indicated that there was some urgency, I have endeavored to get my comments back to you as quickly as possible.

The paper has some major problems in my opinion. However, many of them can probably be cleared up with more/more careful explanation. For example, some of the conclusions drawn do not seem to have an obvious link to the analysis; the last paragraph under "Highlights" is a case in point. Also, the paper recognizes that the market is a very dynamic one yet in places very general conclusions were drawn from a data set obtained Feb. 5-9, 1979; more care is required on those points. I will attempt to list some comments/suggestions below.

1. What is "efficiency of the price discovered"? (p.4)
2. "Weighted average price" (p.7)--I must take exception with the statement that the bid price is the weighted average price for the entire lot; if cannot be the weighted average since the bidder does not know the weights when bids are made.
3. Model I, p.13--refer to the two Cotton Economics and Marketing Conference paper (enclosed) ; and the two ESCS Working Papers to explain the underlying logic of the model.
4. Excluding M^2 from the model, p.15--the correlation between M and M^2 is to be expected, but there is no statistical problem unless the system becomes unstable. In my work with the model, the quadratic formulation behaved exactly as expected and both coefficients were always statistically significant.
5. pp. 16-17, the basic equation with detailed grade, staple, and mic data--I do not clearly understand what is being done here, or why. Perhaps a mathematical specification would help clarify it.
6. Model II, p.19--neither the specification nor the reason for the model is clear.

7. p.23, "if per bale cost of purchasing TELCOT cotton was constant," --if is likely that the per lot cost of performing transactions is constant.
8. p.26--why did value of cotton with staple 33 or longer decline? This requires explanation.
9. pp.27-28--Comparison of regular offer and firm offer is messy. Some tests suggest no difference, some tests suggest a difference for 2 days. What to really conclude?
10. pp.31,32--dynamic market should be more carefully explained.
11. pp.39-41--(a) There are some pretty sweeping generalizations from 5 days' data. (b) Warehouse location might have been quite different in 1980. (c) Where does the conclusion about integrity of the system (6.) come from? (d) Where does the conclusion in (8.) come from?
12. I recommend deletion or major clarification of Implications section.

Please contact me if I need to provide further clarification.

Sincerely,

Don Ethridge
Economist

Enc.
DE/djh

U.S. DEPARTMENT OF AGRICULTURE
ECONOMICS, STATISTICS, and COOPERATIVES SERVICE
WASHINGTON, D.C. 20250

May 21, 1980

Mr. Don E. Ethridge
Department of Agricultural Economics
Texas Tech University
Lubbock, Texas 79409

Dear Don:

Here is a rough draft of Charlie Ling's paper on TELCOT.

As I mentioned to you while in Lubbock recently, we want to get your comments and criticisms of this report before it starts through the publication process. Please pay particular attention to those areas where we're completely wrong or to those areas where something is obviously missing.

I would appreciate your response as quickly as possible since we want to move this manuscript on to publication.

Best regards.

Sincerely,

JAMES E. HASKELL
Director, Cooperative Marketing
and Purchasing Division

Enclosure

PRICING IMPACT OF A COOPERATIVE ELECTRONIC COTTON MARKETING SYSTEM: THE PRICE DISCOVERY FUNCTION OF TELCOT

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April 1980

PRICING IMPACT OF A COOPERATIVE ELECTRONIC COTTON MARKETING SYSTEM: THE PRICE DISCOVERY FUNCTION OF TELCOT. By K.C. Ling, Cooperative Marketing and Purchasing Division; Economics, Statistics, and Cooperatives Service; U.S. Department of Agriculture; Farmer Cooperative Research Report No. 000; April 1980.

ABSTRACT

The impact on price discovery of the TELCOT electronic cotton marketing system was examined. Trading data from February 5-9, 1979 was employed to determine how efficiently TELCOT bid prices reflected differences in cotton quality and in institutional factors such as trading options, warehouse locations, and buyers' preferences. The implications for PCCA's TELCOT operation, for cotton price reporting, and for market research were enumerated.

Keywords: Cotton, TELCOT, electronic marketing system, PCCA, price discovery, pricing efficiency, cotton price.

ACKNOWLEDGEMENT

The generosity of the Plains Cotton Cooperative Association in furnishing the necessary data and the cooperation of its management staff during various stages of this research are gratefully acknowledged.

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HIGHLIGHTS

Cotton price discovery, aspects of the TELCOT system, were examined. The TELCOT bid price was found efficient in explaining cotton price differences due to cotton quality differences, trading options used, warehouse locations, and buyers' preferences. TELCOT trading data from February 5-9, 1979, one of the heaviest trading weeks of the 1978-79 marketing season, was used for the analysis.

Higher quality cotton generally received a higher price, but this statement was not always true because market conditions for different qualities of cotton varied. Quality premiums and discounts were not uniform nor constant from one day to another. The size of a cotton lot was found not to be an important pricing factor from the buyer's standpoint.

The Firm offer option was generally price favorable as compared to the regular offer. There were some pricing differences due to location of warehouses. Lubbock area cotton appeared to have only a slight price advantage over other areas.

Cotton buyers were found to perceive the market differently from each other and from one day to another. Their preceptions reflected the fast-changing market conditions and revealed a dynamic cotton market.

The most important finding was that TELCOT is an effective focal point of cotton price discovery. It was a competitive market, and the integrity of the system appeared to have been maintained by the operating cooperative - PCCA.

PRICING IMPACT OF A COOPERATIVE ELECTRONIC COTTON MARKETING SYSTEM: THE PRICE DISCOVERY FUNCTION OF TELCOT

Introduction

Beginning the 1975 cotton marketing season, Plains Cotton Cooperative Association (PCCA) deployed a computerized marketing system (TELCOT) for trading cotton. This system now brings together cotton grown by farmers in Texas and Oklahoma and cotton buyers in Lubbock, Dallas, Memphis and other cities. The trading of cotton is done through Cathode Ray Tubes (CRT) installed at buyers' offices and at gin offices and connected to a central computer at PCCA headquarters in Lubbock, Texas.

There are three trading options for cotton growers over Telcot; regular offer, firm offer, and crop contracting. Under regular offer, the growers' cotton is offered for sale at an asking price over the buyers' network in a 15-minute bidding auction. The asking price is determined by PCCA and is agreed to by the producer before the auction. The cotton is sold to the highest bidder in the auction if the highest price is within 25 points of the asking price or higher. A producer sets his own

selling price under the firm offer option. The cotton is sold to the first buyer who meets the producer's price. The option of crop contracting was offered to the producers beginning in 1978. Under the option, a buyer and a producer agree on the price for the cotton production from the producer's acres anytime from before planting up to harvest. Little cotton was contracted through TELCOT during that crop season. 1/

1/ TELCOT operation and its impact is discussed in more detail by T. Sporleder, J. Haskell, D. Ethridge, and R. Firsch, Who Will Market Your Cotton? Texas A&M University, 1978, pp. 16-19. Also, see Don E. Ethridge: "A Computerized Remote-Access Commodity Market: TELCOT," Southern Journal of Agricultural Economics, Dec. 1978, pp. 177-182. A general discussion of electronic commodity trading is in D.R. Henderson, et al. "The Economic Feasibility and Impact of Electronic Markets: A Tentative Appraisal," presented at AAEA and WAEA joint annual meeting, Pullman, Washington, 1979. The current status of the system is in C.L. Boggs, "TELCOT from Concept to Commercialization," an address at the National Symposium on Electronic Marketing of Agricultural Commodities, Dallas, Texas, March 17, 1980.

TELCOT has been well received by producers and buyers as a new and effective way of trading cotton. The number of gins and buyers subscribing to TELCOT has been increasing steadily. During the current (1979) marketing season, the computer linked 51 buyers in over 40 offices in Lubbock, Dallas, and Memphis and other Southwest markets to nearly 270 gin offices, including 146 independent gins served by the Commodity Exchange Services, Inc. The strong demand for TELCOT service by the large number of gins and buyers is indicative of its success.

By exposing a producer's cotton to a large number of buyers, TELCOT increases the competitiveness of the marketplace. Competition is further

enhanced by the fact that TELCOT puts buyers, large or small, on an equal footing in bidding for the cotton. It is generally believed by people close to the trade that because of improved competition, prices received by producers trading over TELCOT are higher than those received by producers trading outside the system.2/ It is also believed that price and market information rapidly disseminated by the computer network over the entire trade territory helps improve the general price level of cotton and results in more uniform prices. These benefits are very difficult to document due to lack of data for comparison purposes.

This study dwells on another important impact of TELCOT innovation, that is, the price discovery function of the system and the efficiency of the price discovered. The TELCOT computer network amasses a large volume of market information. Such information provides an unique opportunity to study the relationship between cotton prices generated through TELCOT and the quality components of cotton. It is this function of cotton price discovery the research explores.

2/ PCCA estimates put TELCOT price advantage at one-half to one-cent per pound to producers in comparison with non-TELCOT cotton. This is also reported in the Feasibility of Electronic Marketing for the Wholesale Meat Treade, U.S. Department of Agriculture, AMS- 583, May 1979, p. 29. As TELCOT expands, one might expect price advantage to narrow, and the general level of price to be higher than pre-TELCOT.

Under the mandate of the U.S. Cotton Futures Act of 1916, spot cotton prices have been quoted by Spot Quotations Committees in various market areas designated and administered by the U.S. Department of Agriculture. Each committee obtains information on prices and other terms of sales in its market area. A representative of the Cotton Division, Agricultural Marketing Service (AMS), also canvasses the market area to obtain the same kind of information, and presents such information to the committee for consideration. The committee establishes the spot price for a basis grade and staple length, and determines discounts and premiums for cotton of other qualities. The spot quotations are then transmitted to the Cotton Division of AMS. The averages of the quotations of the various market areas (currently 10) are reported by AMS as the 10-market average spot quotations.

In 1975 the National Cotton Marketing Study Committee after an extensive study of the situation, 3/ reported that this is the "most accurate and reliable source of cotton price information currently available (Report p. 4)" ~~the system~~ although the methods of reporting spot cotton quotations have been substantially improved since the system is not without its critics. 4/ Problems associated with qualities quoted by the committees, membership of the committees and the frequency of committee meetings still surface. Some of the shortcomings of the spot cotton quotations summarized from the discussion of Sporleder, et al, are as follows:

3/ National Cotton Marketing Study Committee Report, U.S. Department of Agriculture.

4/ T. Sporleder, et al, ibid, pp. 8-9.

1. The spot cotton price quotations technically are to settle futures contracts. Their use as spot market prices may not be valid.

2. There is no formal system for reporting spot transactions or effective requirement that transactions be reported.

3. The Quotation Committees are composed of small, rotating groups of spot traders. Cotton producers tend to be underrepresented.

4. There is no solid basis for determining the quantity sold. Although estimates of total quantity sold are reported, the proportions of various grades, staples, and micronaire are not.

In the context of price discovery, the basic problem of the price quotations as reported by the Spot Quotations Committee is that the quotations are for cotton of particular grades while actual trades involve mixed lots of cotton of various qualities at a lot-average price. Without closely relating to the qualities and quantities of cotton actually traded, spot cotton quotations necessitate a fair amount of informed judgment on the part of the Quotation Committees. The relationship between the spot quotations and the market cotton prices is

unknown. Market information embodied in the spot quotations may not provide the most accurate price signals possible to industry participants.

Since the advent of TELCOT, the computerized market mechanism has been proclaimed as a breakthrough for price discovery. The contention holds that the computer network can bring large number of buyers and sellers together simultaneously and rapidly disseminate market information throughout the trading area. With the large volume of cotton (about 1.6 to 1.7 million bales expected in the 1979 season) traded, TELCOT data facilitate the accurate estimation of cotton prices in a well-defined market of a substantial size.

While the contention concerning price discovery is probably true, it has not been tested. Therefore, the present study represents the first research specifically focusing on the price discovery function of TELCOT.

As is customarily done in other cotton transaction, cotton traded over TELCOT is on a lot-basis, and the bid price is the weighted average price of the entire lot. By studying the daily recaps of the bid prices and the quality components of cottons in each lot, bid prices were tested to determine how accurately they reflected variations in cotton qualities with respect to grade, staple, and micronaire. Cotton lots were also grouped by trading options, warehouse locations, and buyers to determine if bid were prices in any way influenced by these institutional differences.

Objectives of the Study

The major objective of this study was to provide a basis on which the current value of cotton could be accurately estimated, based on the TELCOT trading data. Successful achievement of this objective would show that TELCOT ~~could become~~ should be a focal point of price discovery. The cotton price discovered could provide accurate and timely price signals to producers, buyers, and Spot Quotations Committees. Furthermore, efficient price discovery could also serve several other purposes as will be explained later.

In addition to proposing ways to utilize TELCOT data to determine the prices of cotton of various qualities, pricing differences due to institutional factors, such as trading options, warehouse locations, and buyers were determined.

In other words, both the price discovery function of TELCOT and the efficiency of the cotton price discovered were examined. Pricing efficiency was in terms of the quality of market information embodied in the price discovered.

Efficient price discovery mechanism evolving from this inquiry of price relationship could perform the following functions:

1. Facilitate the determination of base price of cotton to be traded on

TELCOT.

2. Provide producers with information as to which qualities of cotton are in demand as a basis for improve production decisions.

3. Provide a conceptual basis for PCCA to pool members' cotton into larger, even running lots and for equitable producer payments.

4. Provide accurate price information for the consideration of Spot Quotations Committees, in addition to the uses to which the committees are currently putting the TELCOT data.

TELCOT Data

The TELCOT data used in this study were furnished by PCCA in September 1979. The data was for one of the busiest trading weeks during the 1978 crop season, February 5-9, 1979. The summary sheets of TELCOT bid results (Appendix I) for each of the five trading days were provided by PCCA. The summary sheets showed: the lot's offer number, gin code, gin account number, lot number, trading option, warehouse location, average quality recaps of leaf content, color, staple length, and micronaire reading, number of bales in the lot, ask and bid prices, difference between the ask and bid prices, and the amount the bid price exceeding the government loan rate, buyer of the cotton, and the time it was traded.

The information contained in the summary TELCOT bid results was coded for input into the computer for analysis. A cotton lot's summary TELCOT bid result was also matched with the detailed quality description on the cotton lot's TELCOT statement (Appendix II). For each cotton lot, the number of bales in each grade, staple and micronaire groups were tallied separately. Bales tainted by bark and grass in each lot were also enumerated. Among the cotton lots of which the complete TELCOT statements were available, only those lots with every cotton bale grade better than Good Ordinary Plus (grade 70) and tinged cotton (color code 4) were retained for the analysis. A small amount of information was sacrificed for the analysis to be reasonably manageable. This practice should not affect the interpretation of the results of the analysis, however. The cotton excluded from the analysis is considered below-grade cotton by the trade. The market forces at work for the below-grade cotton might be considerably different from the market forces for other cotton. The exclusion of the below-grade cotton might, therefore, be beneficial to the analysis.

Table 1 summarized the number of cotton lots traded on TELCOT, the lots for which complete TELCOT statements were available, and lots included in the analysis, together with their corresponding number of cotton bales, for each of the five trading days. The average lot size of the cotton traded during the week was 25 bales, while the cotton for which TELCOT statements were available averaged 23 bales per lot and the cotton included in the analysis averaged 22 bales. This indicated that larger

lots tended to have more diversified qualities, some with below-grade cotton which necessitated exclusion from the analysis.

The quality contents of the cotton included in the analysis for each trading day are shown in table 2. The prevailing grades were Middling Light Spotted (grade 32), Strict Low Middling (grade 41), Strict Low Middling Light Spotted (grade 42), Low Middling (grade 51), and Low Middling Light Spotted (grade 52). The most prevailing grade was Strict Low Middling Light Spotted (grade 42) which accounted for about 41 percent (1,524 out of 3,732 bales) of February 5th cotton bales. The comparable percentages for the other trading days were: 42 percent (1,187 out of 2,838 bales) for the 6th; 43 percent (2,322 out of 5,354 bales) for the 7th; 33 percent (1,458 out of 4,410 bales) for the 8th; and 41 percent (3,896 out of 9,541 bales) for the 9th.

The overwhelming majority (more than 72 percent) of the cotton bales had staples 31 and 32, with the latter length most prevailing. The micronaire readings for most of the cotton were 3.5-4.9. Almost all the quality reductions were due to bark in the cotton. Very few were due to grass. Quality reductions due to other factors were even fewer, and cotton lots containing bales with such quality reductions were excluded from the analysis.

Of the 1,172 lots included in the analysis, 812 lots traded on the regular offer option, while the other 360 lots traded on firm offer.

Table 3 shows that far more cotton lots were traded on the regular offer than on the firm offer option during each of the five trading days. However, size of lot on the firm offer option was larger than on regular offer. The weekly average lot size was 32 bales for firm offer and 18 bales for regular offer.

More than half of all the cotton was stored in ~~a warehouse at~~ Lubbock warehouses (table 4). Warehouses at Altus, Oklahoma and at Plainview and Sweetwater, Texas each stored about 15 percent of the cotton. Less than 3 percent of the cotton was warehoused at Memphis, Corpus Christi and some independent compresses.

A total of 47 buyers bought cotton on TELCOT during the week, with many of them buying only a few lots. There were 13 buyers who bought more than 25 lots. One buyer bought 240 lots, one bought 165 lots and another four buyers bought more than 50 lots. (The number of lots bought by the 13 buyers are listed in table 15 later in the report.)

Analytical Methods and Procedures

The analysis involved the estimation of multiple regression equations based on the price data and quality recaps. Two single-equation models were employed. The first followed the conventional formulation of expressing lot-average cotton price as a function of quality averages of the cotton lot. The second was a weighted average price formulation.

Each model has its own merits and shortcomings; and each was used to complement and reinforce the other.

Model I. Conventional Formulation and Its Variations

In most research relating cotton price to quality, the lot-average price is expressed as a dependent variable, the variation of which is hypothesized to be explained by the variations in the attributes of cotton qualities. Such a formulation was adopted in this analysis. Specifically, the equation was:

$$(1) \quad P = b_0 + b_1 G_1 + b_2 G_2 + b_3 L + b_4 M + b_5 LS + e,$$

where P = TELCOT bid price in cents per pound of lint for a cotton lot.

G_1 = the average first digit of the grade code for the lot of cotton denoting average leaf contents,

G_2 = the average second digit of the grade code for the lot of cotton denoting average color configuration,

L = average staple length in 32nds of an inch for the lot of cotton,

M = average micronaire reading for the lot of cotton,

LS = lot size (number of bales) of the lot of cotton,

b_0 ,..b_5 = regression coefficients,

e = stochastic error term.

The relationships between producer cotton price and leaf content, color, staple length, micronaire and lot size were linear in equation (1). The signs of the regression coefficients b_1 and b_2 were expected to be negative. The a priori assumption was that high-grade cotton with low grade codes should receive a higher price than lower-grade cotton with higher grade codes. It was also assumed that merchants and mills preferred cotton of longer staple and in a larger lot. So it was expected that b_3 and b_5 be positive.

In the preliminary tests, three explanatory variables relating to micronaire were included in the equation. Average micronaire reading (M) together with its square (M^2) were intended to account for the fact that cotton lint fiber was undesirable if it was either immature (too fine) or overmature (too coarse). The variables M and M^2 constituted a quadratic form, with M assumed to have a positive coefficient and M^2 a negative coefficient. It was assumed that the fineness of cotton fiber affected cotton price in such a way that when cotton was more mature and the micronaire reading was higher, the cotton was more desirable and thus more valuable. But when micronaire exceeded a certain reading, the cotton was too coarse and its value declined.

The third variable having to do with micronaire, its standard deviation (VM), was intended to explain the price variation as a result of the diversity of fiber fineness among cotton bales in a lot. A high degree of micronaire variation should adversely affect cotton price. The regression coefficient associated with this argument should therefore have a negative sign.

Need to reference previous work.

Preliminary tests showed that the estimated coefficient associated with VM was not significantly different from zero, while M^2 was highly correlated with M. Both variables M^2 and VM were excluded from the subsequent analysis. 5/

Why?

5/ Also excluded from the subsequent analysis were variables associated with cotton having bark and having grass. Their coefficients either had wrong signs or were not significantly different from zero.

The remaining micronaire variable, average micronaire (M), was assumed to have positive regression coefficients, implying that the higher the micronaire, the higher was the cotton price. The implausibility of that assumption will be discussed further later in the report.

Equation (1) was the basic equation of Model I. Four steps of analysis using the basic equation were undertaken in order to understand the effects of cotton quality on the cotton price. The basic equation was

estimated first. Subsequently, detailed information on grade, staple and micronaire was incorporated into the basic equation, replacing the variables representing the corresponding quality averages in the basic equation. Specifically, the four steps were:

I. The Basic Equation

The basic equation was estimated for each of the five trading days. The results yielded a general picture of the relationship between average cotton price and average cotton quality. The data were also combined to estimate the basic equation for the week.

II. The Basic Equation with Detailed Grade Data

In this step, the variable G_1 in the basic equation representing average leaf content code and the variable G_2 representing average color code were replaced by the variables representing number of bales in the various grades. All 13 grades listed in table 2 were included in the regression analyses. The regression coefficients associated with these grade variables were used to determine price premiums or discounts for different grades of cotton.

III. The Basic Equation with Detailed Staple Data

Six staple variables (table 2) were used to replace average staple

variable L in the basic equation, leaving other parts of the basic equation intact. Pricing differences for cotton of various staple lengths were then estimated.

IV. The Basic Equation with Detailed Micronaire Data

The average micronaire variable M in the basic equation was substituted by variables representing three micronaire groupings: Micronaire reading 3.4 and below; 3.5-4.9; and 5.0 and above. The sensitivity of cotton prices in reflecting micronaire variation was then tested.

The data were then stratified based on the options under which the cotton was traded. The basic equation was estimated for the regular offer option and for the firm offer option for each of the five trading days to test if there were significant pricing differences between the two options.6/ The predicted errors were then sequentially arranged according to the time the trading took place so that interaction between regular offer and firm offer could be analyzed based on the predicted errors.

6/ Unless otherwise specified, statistical test for relations between groups used the "Chow-test". See. J. Johnston, Econometric Methods, McGraw-Hill Book Company, New York, 1963, pp 136-138.

Stratification of the data according to cotton warehouse locations was also attempted. For each of the five days, regression equations were estimated for cotton from Altus, Lubbock, Plainview and Sweetwater. The purpose of the tests were to determine if cotton produced in different producing areas contained any price differentials by using warehouse locations as proxies for the producing areas.

The combined weekly data were then stratified according to buyer's code number. The estimations and tests in this regard were to determine buyer's pay price difference, if any. Weekly data were used so as many buyers as possible could be included.

Estimation of the basic equation using dummy variables to represent trading options, warehouse locatons and buyers was made for each of the five trading days. The purpose was to test the ceteris paribus effect of each institutional factor on cotton price. 7/

7/ The dummy variable method was used with the knowledge of the limitations of the approach. See for example, A. S. Goldberger, Econometric Theory, John Wiley & Sons, Inc. New York, 1966, pp. 218-227. Also, M. Kendall, Multivariate Analysis, Hafner Press, New York, 1975, pp. 92-94.

The analytical procedure for Model I was a partial approach. Its primary

shortcoming was that variables representing averages of various cotton quality components implied equal premiums or discounts for equal incremental changes in quality. For example, the premium for Grade 31 cotton over Grade 41 was assumed to be the same as the discount for Grade 51 cotton; the premium for each incremental increase in staple length was assumed to be equal; and the implausible assumption mentioned earlier that the higher the average micronaire, the higher is the cotton price. Furthermore, the average variables also averaged out much information concerning the quality contents of a cotton lot. Two cotton lots, regardless of how many bales were in each lot and how diversified the qualities varied, were assumed to command the same price if they had the same average quality codes.

Model II. The Weighted Average Price Formulation

The price for a cotton lot is a weighted average of the prices for various qualities of cotton with the number of bales in each quality as the weight. In arithmetic form, the weighted average price is calculated according to this equation (assuming 480 pounds net weight per bale of cotton):

(2) $P = \frac{(P_1Q_1 + P_2Q_2 + P_3Q_3 + \text{----}) \times 480}{(Q_1 + Q_2 + Q_3 + \text{-----}) \times 480}$,

where P = the average price in cents per pound for a cotton lot, ~~as in equation (1),~~

P_1, P_2, P_3---- = price in cents per pound of cotton of quality 1, quality 2, quality 3 ----, respectively,

Q_1, Q_2, Q_3---- = bales of cotton of quality 1, quality 2, quality 3 ----, respectively.

In the present context, P was the TELCOT bid price as in equation (1). Bales of cotton in each quality for a producer's cotton lot was summarized from the producer's TELCOT statement.

By transforming equation (2), the regression equation for Model II became

(3) $P \times (Q_1 + Q_2 + Q_3 + \text{----}) = P_1Q2 + P_2 Q_2 + P_3 Q_3$ ----.

Equation (3) is used in the actual estimation.

The left hand side of the equation was the product of TELCOT bid price for a cotton lot multiplied by the number of bales of cotton in the lot. It was treated as the regressand (~~for~~ dependent variable) for the regression analysis. The bales of cotton of qualities 1, 2, 3, ---- in the lot, Q_1,

α_2, α_3 on the right hand side of the equation, were the regressors (independent variables). Their coefficients were estimated through multiple linear regression and were the estimated prices in cents per pound for the corresponding qualities of cotton. The estimated prices had to be positive and in the reasonably acceptable range. The regression equation (3) did not have an intercept term. Bales of cotton having bark were at first included in the equation but were dropped after preliminary tests showed that they either were not significantly different from zero or had the wrong sign.

Since there were about 7,000 possible cotton quality combinations in the Smith-Doxey classification, the quality variables had to be restricted to the most prevalent ones for the regression to be feasible. However, in doing so, a substantial volume of information was lost because cotton quality combination in a lot was diversified. For example, by restricting cotton quality traded on February 9th to 35 combinations listed in table 5, the number of lots remaining was reduced from 360 lots and 9,541 bales using the approach in Model I (table 1) to 177 lots and 1,934 bales. The average lot size was just under 11 bales for the remaining lots, while in Model I the average lot size for February 9th was over 26 bales.

The 35 combinations were determined via a very tedious process. Every quality combination for February 9th trading was first spelled out. The bales of cotton in each lot were then listed according to their quality combinations. A decision was made to drop from further analysis those lots having bales with qualities so odd that in total less than three lots had such odd qualities.

The same 35 combinations were then used for the other four trading days.

Results Using Model I

The regression analysis of TELCOT data by using Model I provided clear insights into the relationship between cotton price and cotton quality and other characteristics of cotton. The analysis using Model I stressed the relationship or the directions of influences of quality on price. Therefore, the focus of attention was on the signs and the levels of significance of the regression coefficients. Attaching too much importance to the magnitude of the coefficients would not be very meaningful.

Cotton Price and Cotton Quality

The regression results using the basic equation (1), step I, are presented in table 6. The regression is for each of the five trading days. The regression for the week as a whole was for reference only. Because statistical tests had shown that the regression coefficients significantly differed between trading days, theoretically each day had to be analyzed separately.

For each day, February 5-9, more than 80 percent of the variation in cotton price was shown to be explained by the variation in average leaf content, average color, average staple and average micronaire (and lot size for the 7th and 9th), as indicated by the coefficient of determination, R^2. The signs of the regression coefficients were as expected. The negative coefficients

associated with leaf and color meant that an increase in the code for either of the grade factors would reduce the market value of cotton. The coefficients for staple and micronaire were positive which indicated that longer staple and higher micronaire would favorably affect cotton price. All the coefficients were significant at 99 percent probability level of confidence, as shown by their respective t-statistics.

The coefficient for lot size was significant only for February 7th and 9th. For the other three days, the coefficient either was insignificant or had the wrong sign so the variable was excluded from final analysis. Even when the coefficient was statistically significant on February 7th and 9th, the magnitude of the coefficient suggested that lot size had only minimal economic significance on cotton price. This finding should not be considered surprising. If per bale cost of purchasing TELCOT cotton was constant, then it would make no difference if the lot size was big or small. Furthemore, cotton lots of even running quality should be worth more regardless of lot size. The available data is not suitable ~~data is not suitable~~ for testing the latter point.

per lot

Alternatively, the finding of none or minimal influence of lot size on cotton price might be due to the model imperfection.

Temptation would be to draw inference from the regression coefficients concerning the specific amount in cents the variation in a specific component of cotton quality would affect cotton price. For example, one might be tempted to conclude that on February 5th, a cotton lot with an average leaf

content code 3 had a price 1.68 cents per pound higher than a cotton lot with an average leaf content code 4. Or, one might be tempted to say that staple 32 cotton was worth 0.7 cents more than staple 33 cotton. But one should be reminded of the shortcomings of the basic equation that (1) it implied equal premiums or discounts for equal incremental changes in cotton quality, and (2) the average quality variables disregarded the quality diversity of the cotton in a lot. Any inference should not, therefore, be too specific or pushed too far. Perhaps the best way to characterize the findings in table 6 is: Generally speaking, the better the cotton quality, the higher is the cotton price.

In step II, by replacing the average leaf content and the average color variables in the basic equation (1) with the variables representing number of bales in the various cotton grades, leaving staple and average micronaire variables intact, one could observe the relationships between cotton price and grades and detect the fallacy of assuming equal premium or discount for equal incremental differences in cotton grade.

Table 7 summarizes the regression results by replacing average leaf content and average color code with numbers of cotton bales in Grades 31, 32, 33, 40, 41, 42 43, 50, 51, 52, 53, 60 and 61. As in step I, the regression coefficients for average staple and average micronaire had the expected positive signs and were highly significant (at 99 percent confidence level).

In explaining the grade variables, attention should be directed to the

coefficients with at least one asterisk below them, representing at least 90 percent confidence level of significance. Other coefficients were not statistically different from zero.

The statistically significant regression coefficients indicated that generally speaking, higher grade cotton was worth more, but not always. For example, Grade 32 (coefficient 0.038 cents) appeared to have higher value than Grade 31 (-0.097 cents) on February 7th. On February 9th, Grade 51 (0.030 cents) seemed to be more valuable than Grade 41 (0.023 cents). Furthermore, the premiums and discounts for equal incremental difference in quality were not uniform. The differences in value between Grade 32 (0.038 cents), Grade 42 (0.014 cents) and Grade 52 (-0.027 cents) for February 7th were not uniform. Neither were the differences between Grades 41, 42, or 43 on the same day or on the 9th. Nor were they uniform between Grades 31, 41, 51 and 61.

As far as the cotton grade was concerned, Step II relaxed the equal premium and discount assumption in the basic equation and eliminated the pitfalls in using average codes. But with the average staple and average micronaire variables remaining intact as in the basic equation, whether Step II was any improvement over Step I is not clear--although it provided certain insights regarding the relations between cotton price and cotton grades.

In Step III the average staple variable was replaced by variables for number of cotton bales in the grouping: staple 29 and shorter, staples 30, 31, 32 and 33, and staple 34 and longer, with average leaf, average color and average

micronaire variables intact. The regression results reported in table 8 indicated that cotton value increased with increases in staple length, although the value increases were not uniform between staples. When staple increased from 33 to 34 and longer, there appeared to be a drop in cotton value. The regression coefficients for average leaf, average color and average micronaire were all highly significant (at 99 percent confidence level) with expected signs.

The results in Step III showed that the longer the staple, the better is the cotton price as long as the staple did not exceed staple 33. If staple was 34 or longer, the value of cotton declined. But as in the case of Step II, whether Step III was an improvement over Step I was uncertain.

The same would be true for Step IV, where three variables, Mike 3.4 and less, Mike 3.5-4.9, and Mike 5.0 and above replaced the average micronaire in the basic equation, leaving other variables intact.

The regression results using Step IV are presented in table 9. Cotton with Micronaire 3.5-4.9 appeared to have higher value than cotton with either lower or higher micronaire.

Cotton Price and TELCOT Trading Options

The basic equation, although not perfect, was used to test the difference between regular offer price and firm offer price for each of the five trading

days. Results in table 10 indicate that at the 95 percent confidence level, regular offer cotton price was significantly different from firm offer price on both February 5th and 9th. The two prices were different at the 89 percent confidence level on the 8th. There was no statistically significant price difference between the two trading options on February 6th and 7th. The four average quality variables all had regression coefficients significantly different from zero (at 99 percent confidence level) with expected signs.

The statistical test did not show which trading option was more favorable to farmers offering cotton on TELCOT. A dummy variable representing the regular offer option was added to the basic equation (1) to test which option returned higher prices to the farmer. When a cotton lot was traded on regular offer, the dummy variable had a value 1. Otherwise, it took on a value 0. The regression results of the basic equation with dummy variables representing regular offer and other institutional factors are presented in table 11. The coefficient for the regular offer dummy variable was negative and statistically significant for February 5th and 9th. It meant that the regular offer resulted in lower cotton prices ~~farmers~~ than the firm offer during those two days. There was no significant price difference between the two trading options on the 6th, 7th and 8th.

An indirect way of comparing cotton prices under the two trading options was also employed. Each regression equation in table 6 estimated for each of the trading days could be regarded to represent the cotton price trend of the day. If a farmer's cotton lot received a price higher than the price

predicted by the price trend of the day, there would be a positive predicted error and the farmer was relatively better off. On the other hand, if a farmer's cotton had a price lower than the price prescribed by the price trend, there would be a negative predicted error and the farmer was relatively worse off.

Following this reasoning, cotton lots having negative predicted errors were tabulated by trading options for each of the five days and reported in table 12. The percentage of cotton lots having negative predicted errors was consistently lower for the firm offer option than for the regular offer option every of the five trading days.

Therefore, with all evidence considered, it can be concluded that in general, firm offer cotton brought a higher price than regular offer cotton. But this point should not be pushed too far so as to suggest the elimination of the regular offer option. The regular offer option allows competitive bidding among buyers. So the regular offer price is a precise barometer of the market condition and a reference price for setting firm offer price. Without such a reference price, the firm offer option will be cumbersome to operate.

Time array analysis of the predicted errors intended to examine if one trading option was leading another option in deviating from the price trend in the fluctuating market did not show any discernible pattern of leads or lags.

Cotton Price and Warehouse Locations

Warehouse locations were considered as proxies for cotton producing areas with the implicit assumption that each warehouse stored cotton from the nearby area surrounding it. The basic equation was estimated for each of the four major warehouses at Altus, Lubbock, Plainview and Sweetwater. Regression equations were then tested to see if there were significant price differences between warehouses. The results are presented in table 13.

It appeared that price differences among warehouses were significant some of the days and insignificant some other days. Judged by the percentages of cotton lots having negative predicted errors if each day's regression equation was accepted as the price trend of the day (table 14), cotton from nearby Lubbock area received higher prices, except on February 7th when Altus and Plainview appeared to have a price advantage.

Four dummy variables representing warehouses at Altus, Memphis, Plainview, and Sweetwater were included in the regression reported in table 11, with Lubbock serving as the standard of comparisons. The results indicated that on February 5 cotton from the Lubbock area was significantly more expensive than cotton from Altus. The reverse was true on the 9th. There was not significant price differences between warehouses in other instances.

Although table 14 indicated that Lubbock area cotton had a slight price advantage over other cotton, the dummy variable approach reported in table 11 could not confirm it. The contention by some that buyers preferred cotton stored at Lubbock and were willing to pay a premium for it could not be

corroborated.

Cotton Price and Cotton Buyers

Based on the basic equation estimation, there were significant differences between buyers as to the extent grade, staple and micronaire was a major price determinant. Table 15 reports the regression results of the 13 buyers who purchased more than 25 lots of cotton during the week under consideration. The buyer numbers listed there do not correspond to the buyer codes used on TELCOT trading.

Judged by the coefficient of determination, R^2, the four average quality variables only accounted for 44 percent of buyer no. 1's pricing consideration. The percentage was as high as 88 percent for buyer nos. 3, 12, and 13. Buyer no. 3 did not consider average staple a factor in the pricing decision, while buyer no. 12 ignored average micronaire as a price determinant. Neither average staple nor average micronaire went into buyer no. 9's pricing deliberation. Three buyers, nos. 8, 12, and 13, regarded lot size as an important variabale for their cotton purchases.

Further analysis by pairwise testing of the buyers indicated that pricing differences were highly significant for most of the 78 pairwise comparisons. The test results are rather tedious and are not included in this report.

The regression analysis of buyers' pricing differences used data for the

entire week which might have introduced some bias into the results. Nevertheless, the results strongly indicate that buyers had rather different perceptions among themselves concerning the importance of various quality factors in determining prices they were willing to pay for cotton on TELCOT.

Pricing differences among buyers were also verified by regression using the dummy variable approach.

The regression results reported in table 11 had 12 dummy variables representing 12 buyers. Buyer no. 5 was the standard for comparisons.

If the coefficient of a buyer was significantly positive, the buyer's bid price was significantly higher than buyer No. 5; if the coefficient was significantly negative, the buyer's bid price was significantly lower than buyer No. 5; if the coefficient was not significantly different from zero, then there was no price difference between the buyer and buyer No. 5.

Table 11 shows that during the five trading days, some buyer's bid prices were higher than buyer no. 5; some were lower. But the majority of buyers' bid prices were not significantly different from buyer No. 5. Buyer no. 5 apparently was not a price leader in bidding for cotton. This is significant because buyer no. 5 is Plains Cotton Cooperative Association. It appears that the integrity of the trading system has been maintained by the cooperative.

Cotton Price Depicted TELCOT A Dynamic Market

It was stated earlier that there were statistically significant pricing differences between trading days. Table 16 illustrates these differences. Pairwise comparison showed that the pricing difference between trading days was highly significant. Emerging from these tests was a picture of a dynamic TELCOT market where the underlying market forces at work were fast changing.

These tests also pointed out the inadequacies of previous cotton market research. According to statistical theory, if two sets of data are significantly different from each other, they should be kept separated for regression analysis. In the context of the present study, using the weekly data in regression analysis by lumping the five trading days together would be statistically unsound. The practice in most of previous cotton market research of using yearly average price data, even if the prices were adjusted to a single reference point in time, would likely lead to fallible results.

Results Using Model II

The weighted average price formulation of Model II permitted the estimation of the price for a specific quality of cotton. The number of bales of various qualities were the regressors in the equation. The regression coefficients estimated were the estimated prices of cotton of various qualities. Every regression equation reported in this connection had a coefficient of determination, R^2, equal to 1. All the regression coefficients estimated, i.e., all the estimated prices, were statistically significant at almost 100 percent level. 8/

8/ Except the estimated price for grade 53 staple 32 mike 3.5-4.9 cotton under firm offer option, February 9, which was significant at 95 percent confidence level.

Estimated Cotton Prices and Cotton Quality

Cotton prices were estimated for each of the five trading days and are reported in appendix tables 1 through 5. In each table, the estimated price, the standard error of the estimated price and the number of cotton lots having the specific quality were tabulated. Because the purpose of the estimation was the price for a specific quality of cotton, a high degree of estimation unbiasedness was required. An asterisk was put before an estimated price if its standard error of estimation was less than 1 cent.

A closer look would reveal that the asterisked prices were for those cotton qualities which were more prevalent. The regression analysis method follows "the law of large numbers". In the present context, it meant that the regression equation tilted toward the dominant cotton qualities in the sense that they had larger numbers of observation (more cotton lots had the specific qualities). This was true for the estimated prices every day. In other words, the estimated prices for the dominant cotton qualities were more reliable and should be the focus of the subsequent discussion.

Table 17 summarized the estimated prices of the eight dominant grades of

cotton. Estimated prices indicate that better grade and longer staple cotton usually brought higher prices, but not necessarily always. They also showed that quality premiums and discounts were not uniform nor constant. The best way to examine the price relationship was by plotting the prices on a chart (figure 1).

Three major points are discernible from figure 1: (1) The prices for the eight qualities of cotton did not move in a parallel pattern, implying that different qualties of cotton responded to different market forces at work in the marketplace; (2) better grade and longer staple cotton did not always received higher prices; and (3) quality premiums and discounts were not uniform and continued to change from day to day.

Estimated Cotton Prices and Trading Options

The data for each day was grouped into regular offer and firm offer. Of the five trading days, only February 9th had sufficient observations for ~~the~~ firm offer prices to be estimated. Although the regular offer prices were estimated for each day, only the regular offer and firm offer prices for February 9th were included in the appendix tables 6 and 7 for comparison purposes. Prices for the dominant qualities of cotton which had standard errors less than 1 cent were summarized in table 18 by trading option. Whether one trading option was more favorable than the other was not clear from the comparison. Estimates using weekly data for the corresponding qualities were also partially listed in table 18. For some qualities, the

estimated regular offer prices were higher than the firm offer prices of corresponding qualities of cotton, and vice versa. At any rate, price differences between trading options were not pronounced when the standard errors of estimation were taken into account.

Using the estimated prices in appendix tables 1 through 5 as the prevailing cotton prices for each day, the values of cotton lots were "predicted". If the actual value of a cotton lot was higher than the predicted value, there would be a positive predicted error and the farmer was considered relatively better off. If the predicted error was negative, the farmer was considered relatively worse off. Cotton lots having negative predicted errors were tabulated by trading options for each of the five days in table 19. It appeared that the firm offer had a lower percentage of cotton lots having negative predicted errors than the regular offer. Therefore, it is statistically proper to say that producers utilizing the firm offer option ~~in~~ were in general relatively better off. The percentages in table 12 (Model I) and table 19 (Model II) varied somewhat. Nevertheless they pointed out the relative advantage of firm offer over regular offer.

Estimated Cotton Prices and Warehouse Locations

Cotton prices for each of the four major warehouses at Altus, Lubbock, Plainview and Sweetwater were estimated by using the weekly data. Estimated prices for common qualities of cotton which had standard errors of estimation of less than 1 cent were summarized in table 20. The estimated cotton prices

for some qualities appeared to be very consistent between warehouses. For some other qualities, prices were relatively far apart. Prices for grade 41 staple 32 cotton from Lubbock, Plainview and Sweetwater areas were all similar but lower than Altus area cotton. For grade 41 staple 33 and grade 42 staple 31, Altus and Plainview cotton prices were relatively similar, while Lubbock and Sweetwater cotton appeared to have higher prices. For grade 51 staple 32, Altus and Lubbock prices were together and were higher than Plainview and Sweetwater which were also similar. There were no discernible price differences between warehouses for grade 42 staple 32 and grade 52 staple 32 cotton. Overall, Lubbock area cotton appeared to have a slight price advantage over other areas.

Estimated Cotton Prices and Cotton Buyers

Most of the buyers did not purchase a sufficient number of lots to enable estimating and comparing individual buyer's prices for specific qualities of cotton. However, market behavior of the buyers as a group can be analyzed by utilizing the available statistics.

Buyers bidding for cotton on TELCOT reveal their individual estimates of the market equilibrium price. Whether the trading is on regular offer or on frim offer, the resulting bid price of a cotton lot is the highest estimate of the equilibrium price. This bid price is the only price flashed on the CRT screen and is known to all buyers.

Assume that there is a daily market equilibrium price for cotton. The bid price can then be viewed as an unbiased estimator of the equilibrium price of a cotton lot. The bid price might be higher or lower than the equilibruim price, with an error term which is independent of the quality of the cotton traded and which is normally distributed with a mean of zero and a certain variance. The variance of the error term is a measure of the dispersion of bid prices.

The variance of the error term was estimated from the predicted errors which in turn were the differences between the actual bid prices and the predicted bid prices using the Model II. The predicted bid price was assumed to be the equilibrium price of a cotton lot. The estimated variance of the error term is listed in table 21 for each of the five trading days.

The estimated variance of the error term declined from .240 for February 5th to .194 for 6th, then to .167 for 7th, and to .165 for 8th. It then jumped to 1.430 for the 9th. This suggests that market conditions ~~because~~ became relatively more stable from February 5th to 8th. Market conditions were most volatile on February 9th. 9/

9/ K.D.Garbade and W.L. Silber, in discussing security price dispersion, listed five reasons underlying the disparity between dealer quotations at a point in time: different inventory policies, heterogeneous expectations of future security prices, instability in supply-demand conditions, different

cost functions, and ignorance of other dealer quotes. In the present context, instability in supply-demand conditions is the most pertinent reason of bid price dispersion. See "Price Dispersion in the Government Securities Market," Journal of Political Economy, 1976, Vol. 84 No. 4, pp. 721-40.

Market conditions depicted by dispersion of bid prices were also reflected by the estimated premiums/discounts for differences in cotton quality. The latter were calculated from estimated prices of the eight dominant grades of cotton listed in table 17 and graphed in figure 1. The cotton price for February 5th ranged from 49.14 cents (grade 53 staple 31) to 53.84 cents (grade 41 staple 32), a premium/discount range of 4.70 cents and with a standard diviation of 1.53 cents (table 21). The quality premium/discount range and the standard deviation of price declined continuously from February 5th to the 8th. Cotton prices were most widely dispersed on February 9th with a standard deviation of 1.77 cents. The lowest price for the day was 48.00 cents (grade 52 staple 32), the highest was 53.86 cents (grade 41 staple 32), a quality premium/discount range of 5.86 cents.

Thus, the range of quality premium/discount and the degree of price dispersion of the eight qualities of cotton were closely related to market conditions depicted by the dispersion of the bid prices. When bid prices portrayed a most stable market on February 8th, the dispersion of prices of the eight qualities of cotton were also the most compact and the range of quality premium/discount was the smallest. The dispersion was less compact and the quality premium/discount range was wider, when the market conditions were less

stable on 5th, 6th and 7th. The quality premium/discount range and the dispersion of the cotton prices of the eight dominant qualities were the widest on February 9th, ~~when day the~~ the day when market conditions were the most volatile. When the market conditions were relatively stable, buyers responded to the similar sets of information and resulted in a narrower range of quality premium/discount and less dispersion of prices of different cotton qualities. When the market contions were volatile, buyers responded to different, often conflicting, sets of supply-demand signals which resulted in wider cotton price dispersion and wider premium/discount ranges.

Although the measurement of the stability of the market conditions by the variance of the error term was absolute, the measurement of price dispersion of different qualities of cotton was only relative. Because different qualities of cotton commanded different prices, there always will be quality premiums/discounts and a price dispersion. It is conceivable that the market conditions might be perfectly stable so that the variance of the error term might equal zero. Even then, dispersion of prices of different qualities of cotton and the quality premiums/discounts would not be zero unless the market is indifferent to cotton quality.

Summary of Major Findings

The two models used in this study each have merits and shortcomings. The shortcomings of Model I were its assumptions of uniform premiums and discounts and of higher quality cotton always receiving a higher price. Its merits were

its ability to include all the observations in the analysis and its maneuvrability. On the other hand, Model II yielded specific price estimates for various qualities of cotton at the expense of sacrificing a substantial amount of data. Nevertheless, the findings when using one model complemented and reinforced the findings when using the other. These major findings are summarized below:

1. In general, higher quality cotton received a higher price, althugh there were a few exceptions. Quality premiums and discounts were not uniform for incremental differences in cotton quality. This was true not only for grade but also for staple and micronaire. Longer staple cotton received a higher price if the staple was not longer than 33. Cotton with a micronaire reading of between 3.5 and 4.9 was more valuable than cotton which was either higher or lower in micronaire. Premiums and discounts also appeared to have changed from day to day.

2. The size of a cotton lot was not an important factor influencing cotton price.

3. Firm-offer trades in general were relatively more price favorable than regular-offer transactions.

4. Using warehouse locations at Altus, Lubbock, Plainview, and Sweetwater as the proxies for the cotton-producing areas surrounding these warehouses, the results indicated that price differences among cotton from the various areas

were almost nil. Cotton from the Lubbock area appeared to have a slight price advantage.

5. Buyers purchasing cotton on TELCOT perceived the market differently from one another. For some buyers, average price was closely correlated with quality makeups of the lot; but factors other than grade, staple and micronaire were largely responsible for prices paid by other buyers.

6. The integrity of TELCOT trading system appeared to have been maintained by PCCA.

7. TELCOT was a dynamic cotton market. There were significant pricing differences from one day to another, suggesting rapidly changing market conditions. Market research using yearly or quarterly average price data may be inadequate.

8. TELCOT data cas be utilized to yield timely and accurate market prices of various qualities of cotton.

Implications of the Study

The findings of the study provided several implications for participants in the cotton market.

Implications for PCCA

The TELCOT innovation is a breakthrough in cotton marketing and in cotton price discovery. The integrity of the system which is vital to its continuing sucessful operations appeared to have been maintained. The cooperative's efforts to better serve the market and its farmer-members are commendable.

Given proper computer software, the TELCOT price data can be utilized to accurately determine the base price. Computer programs must be capable of grouping each cotton lot into specific quality categories, discarding odd quality lots, and running regression analysis in the formulation of Model II. A decision as to how much cotton or how long a time period each regression estimation would cover and how often it would be updated would have to be made. The premiums and discounts for cotton of minor qualities would still need be determined by informed human judgment.

It appeared that the size of cotton lot did not significantly affect cotton price. Therefore, the price benefits of pooling producers' cotton into larger lots might be minimal. However, pooling for the purpose of obtaining even running lots may be price benefical. The latter point has not been discussed in this paper.

Implications for Price Reporting and Market Service Agencies

Important lessons can be learned from the TELCOT innovation. The electronic marketing system appears to provide a promising competitive market for commodities which are produced in scattered production areas and for which

central market outlets are fast diminishing. Price discovery and price reporting also can be greatly improved.

The cotton price discovery process may be revolutionized by expanding electronic marketing systems into other cotton producing areas. Price data for different growths of cotton and different markets would have to be separated for the purpose of determining cotton prices in different market areas.

The findings of this study also pointed out that while the majority of buyers did take into consideration the Smith-Doxey (green card) classification of cotton quality, other factors also played a role in their purchasing decisions. With the advent of instrument testing, which is expected to be on stream in the future, the classification of cotton quality will be more accurate, and additional fiber measurements will be added. Cotton price reporting can be significantly improved.

Implications for Cotton Market Researchers

Several previous cotton market research studies have arrived at the same general conclusion that cotton price reflects use value of cotton poorly, and therefore, the usefulness of green card classification for this purpose is limited. Two examples are the papers by Newton, et al, and Hudson, et al. 10/. A close examination of those papers revealed that price data and samples were inadequate. The models they used were similar to Model I in the current

study. The findings of this study suggest that: (1) Price data are most accurate and meaningful if the data are of short time duration because of the dynamic nature of the market, (2) proper stratification of cotton data is necessary to single out cotton quality from other institutional factors in the data, and (3) Model II is more appropriate for cotton price estimation if a sufficient volume of data is available.

[10/] F. Newton, S. Burley and P. LaFerney, "Does Cotton Price Reflect Use Value?", The Textile Management and Engineering Journal, 1967. J. Hudson and D. Williams, "Relationship of Fiber Test Data and Other Factors Affecting Prices Paid for Cotton in the Southern Region," Louisiana State University D.A.E. Report No. 510, October 1976.

Appendix I

An Example Sheet of TELCOT Bid Results

RES026 T E L C O T B I D R E S U L T S BY GIN PAGE 1 02/05/79 19:25

OFFER #	GIN	ACCT LOT	WHSE	LF	COL	STPL	MIC	B/C	AREA	ASK	BID	DIF	OVER	BUYER	COMMENT
0360001	50000-0001-44		T	4.0	2.0	31.0	3.50	1	+25	5150					N/S
3105087	50016-0302-60F		L	4.0	1.5	32.0	3.52	161		6500					N/S
3115013	50016-0529-60F		L	4.2	1.8	31.8	5.24	4		6000					N/S
3115016	50016-0529-60F		L	4.2	1.7	31.1	5.38	92		6000					N/S
0045259	50016-0742-70F		L	4.0	1.9	31.6	3.99	47		6000					N/S
0360045	50022-0065-01		S	4.9	1.1	32.1	4.31	7		5129	5153	+24	0843	81 CANALE COTTON CO.	10:57
0360046	50022-0066-02		S	4.3	1.8	31.6	3.98	22		5109	5116	+7	0854	81 CANALE COTTON CO.	10:57
0365153	50026-0016-03		S	4.1	1.8	31.9	4.61	9		5210	5210		0866	51 PLAINS COTTON COOP	11:36
0365255	50026-0028-02		S	4.5	1.8	33.0	4.08	4		5151					OUT
0365295	50026-0028-02		S	4.5	1.8	33.0	4.08	4		5100	5100		0727	51 PLAINS COTTON COOP	15:07
0305048	50026-0030-01F		S	5.0	2.0	31.0	4.90	1		5020					N/S
0315174	50026-0065-01F		S	4.7	1.1	32.0	3.41	20		5400					N/S
0315175	50026-0065-02F		S	4.4	.9	31.5	3.69	29		5400					N/S
0365248	50026-0074-01		S	4.4	.8	31.9	4.01	33		5240					OUT
0365289	50026-0074-01		S	4.4	.8	31.9	4.01	33		5160	5160		0757	81 CANALE COTTON CO.	14:58
0255113	50026-0074-01F		S	4.3	.8	31.7	3.98	26		5500					OUT
0165410	50026-0075-01F		S	4.2	1.0	32.0	3.62	17		5432					N/S
0165411	50026-0075-03F		S	4.0	1.0	31.3	3.74	23		5398					N/S
0325198	50026-0081-02F		S	4.5	1.3	31.7	4.15	96		5500					N/S
0365181	50026-0087-04		S	4.2	1.5	31.3	4.10	33		5160	5160		0862	51 PLAINS COTTON COOP	11:44
0365176	50026-0087-04		S	4.2	1.6	31.4	4.10	24		5160					OUT
0365047	50026-0087-04		S	4.2	1.5	31.3	4.10	33		5200					OUT
0255305	50026-0092-01F		S	4.7	1.0	32.2	3.56	52		5600					N/S
0255306	50026-0092-02F		S	4.5	2.7	30.7	4.39	11		5600					N/S
0255307	50026-0092-03F		S	5.0	1.3	31.7	4.03	7		5600					N/S
0365274	50026-0099-01		S	4.4	1.5	31.5	4.09	8		5185					OUT
0365276	50026-0099-01		S	4.3	1.4	31.4	4.14	10		5185					N/S
0365243	50026-0099-01		S	4.3	1.6	31.6	4.13	7		5185					OUT
0365237	50026-0099-51		S	4.3	1.6	31.6	4.13	7		5185					OUT
0365070	50026-0099-51		S	4.3	1.6	31.6	4.13	7		5200					OUT
0335006	50027-0017-04F		S	4.1	1.6	31.9	3.82	14		5225	5225		0848	51 PLAINS COTTON COOP	09:56
0295444	50027-0034-01F		S	4.4	1.4	31.8	4.00	49		5300					N/S
0365157	50027-0040-04		S	4.0	1.3	31.8	4.48	12		5300					N/S
0365320	50027-0083-01		S	5.0	.0	33.0	3.50	2		5200					OUT
0365321	50027-0083-01		S	5.0	.0	33.0	3.50	2		5180					N/S
0265131	50027-0085-01F		S	4.6	2.0	31.5	3.59	24		5200					N/S
0315010	50027-0089-01F		S	5.0	1.3	31.3	3.88	4		5100					N/S
0305157	50027-0121-02F		S	4.3	1.5	31.8	4.70	4		5300					N/S
0175164	50027-0122-01F		S	4.1	2.0	32.2	4.10	9		5500					N/S
0365055	50027-0129-01		S	5.0	1.0	31.0	2.90	1		4825	4825		0960	146 W. D. LAWSON	09:41
0360126	50027-0130-01		S	4.6	1.9	31.2	4.29	20		4940	4961	+21	0803	46 GEO. H. MCFADDEN & BRO.	15:37

Appendix II

An Example Sheet of TELCOT Statement

TELCOT STATEMENT

DATE 2/12/79 BATCH 172

SWISHER COOP GIN 70332-0234-01 PLAINS COTTON COOPERATIVE

JAMES J D & MARK INVOICE NO.60 P.O. BOX 2827

48-4379-C0154 4021000 LUBBOCK, TEXAS 79408

WAREHOUSE TAG	NET WGT	GIN TAG	STORAGE DATE	CLASS	MIC		
216232	502	4875	12/29/78	4232	36		
216233	421	4877	12/29/78	4231	41		
216235	514	4872	12/29/78	4232	36		
216236	492	4871	12/29/78	4232	34		
216237	489	4867	12/29/78	4232	30		
216238	494	4876	12/29/78	4232	38		
216241	525	4874	12/29/78	5232	38		
216244	420	4960	12/29/78	4232	40		
216248	483	4865	12/29/78	4232	35		
216249	512	4873	12/29/78	4232	41		
216252	494	4868	12/29/78	4233	36		
216253	488	4869	12/29/78	4232	37		
216254	490	4870	12/29/78	4232	37		
TOTALS	24787	51			AVG	.5100	12641.37

LESS DEDUCTIONS:

FIRST MONTH CHARGES.....	267.75
LATE DELIVERY.....	72.25
WEIGHT PENALTIES.....	5.00
COTTON INC.....	107.10
TOTAL DEDUCTIONS	452.10-
NET DUE YOU	12189.27

PAYEE	DEFER DATE	GIN COLLECTION	CHECK NUMBER	CHECK AMOUNT
SWISHER COOP GIN			113377	12,189.27

Appendix III

Tables of Estimated Prices Using Model II

Appendix Table 1

ESTIMATED PRICES OF COTTON TRADED ON TELCOT, FEBRUARY 5, 1979

(Asterisk indicates that the estimated price has a standard error of estimation less than 1 cent and therefore should be highly credible)

Grade-Staple, Micronaire	Estimated price	Standard error of estimation	Lots having the quality
	--------Cents per pound--------		
32-30, 3.5-4.9	*51.59	0.27	10
32-31, 3.5-4.9	*51.58	0.12	15
32-32, 3.5-4.9	*52.42	0.36	13
41-30, 3.5-4.9	52.77	1.06	5
41-31, 3.5-4.9	*52.03	0.07	23
41-32, 3.5-4.9	*53.84	0.17	22
41-33, 3.5-4.9	*54.96	0.19	7
42-30, 3.5-4.9	*49.90	0.20	16
42-31, 3.3-3.4	51.24	2.02	3
42-31, 3.5-4.9	*50.68	0.07	44
42-32, 3.0-3.2	49.34	1.04	2
42-32, 3.3-3.4	48.40	1.56	3
42-32, 3.5-4.9	*52.04	0.08	50
42-33, 3.5-4.9	*53.06	0.36	12
43-30, 3.5-4.9	*47.18	0.61	4
43-31, 3.5-4.9	*47.55	0.83	4
43-32, 3.5-4.9	*47.92	0.40	11
43-33, 3.5-4.9	--	--	--
51-30, 3.5-4.9	51.06	1.77	2
51-31, 3.5-4.9	*49.92	0.48	6
51-32, 3.3-3.4	50.16	2.12	1
51-32, 3.5-4.9	*52.32	0.32	13
51-33, 3.3-3.4	--	--	--
51-33, 3.5-4.9	*51.92	0.47	7
52-30, 3.5-4.9	*49.00	0.45	3
52-31, 3.3-3.4	--	--	--
52-31, 3.5-4.9	*49.14	0.24	13
52-32, 3.3-3.4	--	--	--
52-32, 3.5-4.9	*50.19	0.26	20
52-33, 3.5-4.9	*49.05	0.42	8
53-31, 3.5-4.9	48.64	1.86	2
52-32, 3.5-4.9	45.05	1.21	1
61-31, 3.5-4.9	--	--	--
61-32, 3.5-4.9	--	--	--
61-33, 3.5-4.9	46.62	1.51	1

Appendix Table 2

ESTIMATED PRICES OF COTTON TRADED ON TELCOT, FEBRUARY 6, 1979

(Asterisk indicates that the estimated price has a standard error of estimation less than 1 cent and therefore should be highly credible)

Grade-Staple, Micronaire	Estimated price	Standard error of estimation	Lots having the quality
	--------Cents per pound--------		
32-30, 3.5-4.9	*50.14	0	2
32-31, 3.5-4.9	*51.37	0	8
32-32, 3.5-4.9	*52.98	0	6
41-30, 3.5-4.9	*50.44	0	3
41-31, 3.5-4.9	*50.68	0	11
41-32, 3.5-4.9	*51.86	0	16
41-33, 3.5-4.9	*54.88	0	3
42-30, 3.5-4.9	*48.24	0	11
42-31, 3.3-3.4	*49.11	0	2
42-31, 3.5-4.9	*50.66	0	29
42-32, 3.0-3.2	*48.90	0	2
42-32, 3.3-3.4	*50.10	0	2
42-32, 3.5-4.9	*50.72	0	31
42-33, 3.5-4.9	*51.45	0	9
43-30, 3.5-4.9	*46.72	0	2
43-31, 3.5-4.9	*47.26	0	3
43-32, 3.5-4.9	*47.07	0	4
43-33, 3.5-4.9	*46.02	0	2
51-30, 3.5-4.9	--	--	--
51-31, 3.5-4.9	*50.50	0	5
51-32, 3.3-3.4	*49.82	0	4
51-32, 3.5-4.9	*50.65	0	10
51-33, 3.3-3.4	--	--	--
51-33, 3.5-4.9	*50.06	0	7
52-30, 3.5-4.9	*46.92	9	3
52-31, 3.3-3.4	--	--	--
52-31, 3.5-4.9	*48.37	0	11
52-32, 3.3-3.4	*48.60	0	1
52-32, 3.5-4.9	*48.84	0	20
52-33, 3.5-4.9	*48.15	0	5
53-31, 3.5-4.9	*44.00	0	1
52-32, 3.5-4.9	*50.00	0	2
61-31, 3.5-4.9	--	--	--
61-32, 3.5-4.9	--	--	--
61-33, 3.5-4.9	--	--	--

Appendix Table 3

ESTIMATED PRICES OF COTTON TRADED ON TELCOT, FEBRUARY 7 , 1979

(Asterisk indicates that the estimated price has a standard error of estimation less than 1 cent and therefore should be highly credible)

Grade-Staple, Micronaire	Estimated price	Standard error of estimation	Lots having the quality
	--------Cents per pound--------		
32-30, 3.5-4.9	*50.22	0	2
32-31, 3.5-4.9	*52.53	0	5
32-32, 3.5-4.9	*52.00	0	4
41-30, 3.5-4.9	*48.72	0	3
41-31, 3.5-4.9	*51.41	0	15
41-32, 3.5-4.9	*52.02	0	20
41-33, 3.5-4.9	*55.76	0	2
42-30, 3.5-4.9	*49.81	0	19
42-31, 3.3-3.4	*48.10	0	5
42-31, 3.5-4.9	*50.57	0	53
42-32, 3.0-3.2	*48.33	0	4
42-32, 3.3-3.4	*50.15	0	6
42-32, 3.5-4.9	*51.36	0	39
42-33, 3.5-4.9	*51.86	0	16
43-30, 3.5-4.9	*46.46	0	2
43-31, 3.5-4.9	*47.38	0	8
43-32, 3.5-4.9	*47.80	0	7
43-33, 3.5-4.9	*48.23	0	2
51-30, 3.5-4.9	*47.52	0	3
51-31, 3.5-4.9	*51.28	0	14
51-32, 3.3-3.4	*48.40	0	3
51-32, 3.5-4.9	*50.85	0	18
51-33, 3.3-3.4	--	--	--
51-33, 3.5-4.9	*51.64	0	10
52-30, 3.5-4.9	*47.28	0	3
52-31, 3.3-3.4	--	--	--
52-31, 3.5-4.9	*48.80	0	25
52-32, 3.3-3.4	*53.10	0	3
52-32, 3.5-4.9	*48.87	0	21
52-33, 3.5-4.9	*49.90	0	7
53-31, 3.5-4.9	*47.22	0	3
52-32, 3.5-4.9	*45.85	0	1
61-31, 3.5-4.9	*38.42	0	1
61-32, 3.5-4.9	*44.72	0	1
61-33, 3.5-4.9	*47.29	0	2

Appendix Table 4

ESTIMATED PRICES OF COTTON TRADED ON TELCOT, FEBRUARY 8, 1979

(Asterisk indicates that the estimated price has a standard error of estimation less than 1 cent and therefore should be highly credible)

Grade-Staple, Micronaire	Estimated price	Standard error of estimation	Lots having the quality
	--------Cents per pound--------		
32-30, 3.5-4.9	*50.26	0.99	3
32-31, 3.5-4.9	*52.25	0.61	7
32-32, 3.5-4.9	*52.17	0.92	7
41-30, 3.5-4.9	50.20	2.54	1
41-31, 3.5-4.9	*51.60	0.69	7
41-32, 3.5-4.9	*51.57	0.74	7
41-33, 3.5-4.9	*54.28	0.53	5
42-30, 3.5-4.9	*49.79	0.35	10
42-31, 3.3-3.4	49.10	1.94	2
42-31, 3.5-4.9	*50.71	0.23	28
42-32, 3.0-3.2	49.50	1.94	1
42-32, 3.3-3.4	50.01	1.22	4
42-32, 3.5-4.9	*51.19	0.20	32
42-33, 3.5-4.9	*52.18	0.62	9
43-30, 3.5-4.9	*47.07	0.99	2
43-31, 3.5-4.9	*47.33	0.89	4
43-32, 3.5-4.9	49.80	1.88	2
43-33, 3.5-4.9	--	--	--
51-30, 3.5-4.9	47.65	5.06	1
51-31, 3.5-4.9	*49.64	0.63	9
51-32, 3.3-3.4	53.15	3.24	1
51-32, 3.5-4.9	*50.87	0.30	16
51-33, 3.3-3.4	49.36	2.01	1
51-33, 3.5-4.9	*51.24	0.59	6
52-30, 3.5-4.9	47.87	1.37	3
52-31, 3.3-3.4	--	--	--
52-31, 3.5-4.9	*48.60	0.41	14
52-32, 3.3-3.4	*49.61	0.73	1
52-32, 3.5-4.9	*49.46	0.44	13
52-33, 3.5-4.9	*49.06	0.79	7
53-31, 3.5-4.9	--	--	--
52-32, 3.5-4.9	46.53	1.37	2
61-31, 3.5-4.9	--	--	--
61-32, 3.5-4.9	45.03	4.56	2
61-33, 3.5-4.9	49.73	5.12	1

Appendix Table 5

ESTIMATED PRICES OF COTTON TRADED ON TELCOT, FEBRUARY 9 , 1979

(Asterisk indicates that the estimated price has a standard error of estimation less than 1 cent and therefore should be highly credible)

Grade-Staple, Micronaire	Estimated price	Standard error of estimation	Lots having the quality
	--------Cents per pound--------		
32-30, 3.5-4.9	*49.48	0.75	7
32-31, 3.5-4.9	*51.92	0.42	16
32-32, 3.5-4.9	*53.44	0.59	11
41-30, 3.5-4.9	*52.33	0.94	5
41-31, 3.5-4.9	*51.15	0.28	22
41-32, 3.5-4.9	*53.86	0.21	29
41-33, 3.5-4.9	*55.28	0.40	8
42-30, 3.5-4.9	*51.59	0.65	28
42-31, 3.3-3.4	50.51	1.36	3
42-31, 3.5-4.9	*50.88	0.07	68
42-32, 3.0-3.2	50.30	2.28	4
42-32, 3.3-3.4	48.57	1.76	5
42-32, 3.5-4.9	*52.36	0.10	84
42-33, 3.5-4.9	*50.59	0.76	11
43-30, 3.5-4.9	46.63	1.56	6
43-31, 3.5-4.9	*48.48	0.47	16
43-32, 3.5-4.9	49.04	1.00	11
43-33, 3.5-4.9	46.34	1.58	3
51-30, 3.5-4.9	43.55	3.80	3
51-31, 3.5-4.9	*54.81	0.44	21
51-32, 3.3-3.4	50.13	4.36	1
51-32, 3.5-4.9	*49.92	0.37	33
51-33, 3.3-3.4	48.01	3.14	3
51-33, 3.5-4.9	55.86	1.10	14
52-30, 3.5-4.9	*51.17	0.69	10
52-31, 3.3-3.4	47.12	1.50	5
52-31, 3.5-4.9	*49.83	0.35	41
52-32, 3.3-3.4	*49.36	0.91	4
52-32, 3.5-4.9	*48.00	0.26	48
52-33, 3.5-4.9	*51.37	0.95	13
53-31, 3.5-4.9	46.58	1.36	6
52-32, 3.5-4.9	48.59	1.15	5
61-31, 3.5-4.9	48.49	1.40	4
61-32, 3.5-4.9	53.37	2.73	4
61-33, 3.5-4.9	50.50	1.75	3

Appendix Table 6

ESTIMATED PRICES OF COTTON TRADED ON TELCOT, FEBRUARY 9 , 1979

Regular Offer Option

(Asterisk indicates that the estimated price has a standard error of estimation less than 1 cent and therefore should be highly credible)

Grade-Staple, Micronaire	Estimated price	Standard error of estimation
	Cents per pound	
32-30, 3.5-4.9	48.17	3.68
32-31, 3.5-4.9	*52.94	0.83
32-32, 3.5-4.9	55.01	1.04
41-30, 3.5-4.9	*53.52	0.70
41-31, 3.5-4.9	*50.82	0.17
41-32, 3.5-4.9	*53.32	0.39
41-33, 3.5-4.9	53.15	3.50
42-30, 3.5-4.9	*50.71	0.80
42-31, 3.3-3.4	52.55	2.38
42-31, 3.5-4.9	*50.76	0.11
42-32, 3.0-3.2	51.87	2.05
42-32, 3.3-3.4	48.79	1.61
42-32, 3.5-4.9	*52.27	0.09
42-33, 3.5-4.9	51.46	1.13
43-30, 3.5-4.9	48.31	1.13
43-31, 3.5-4.9	*48.11	0.39
43-32, 3.5-4.9	*48.88	0.89
43-33, 3.5-4.9	45.87	1.36
51-30, 3.5-4.9	-	-
51-31, 3.5-4.9	*53.22	0.41
51-32, 3.3-3.4	-	-
51-32, 3.5-4.9	*51.62	0.36
51-33, 3.3-3.4	48.38	1.92
51-33, 3.5-4.9	53.17	1.36
52-30, 3.5-4.9	48.10	1.14
52-31, 3.3-3.4	48.81	1.35
52-31, 3.5-4.9	*49.44	0.25
52-32, 3.3-3.4	*48.67	0.78
52-32, 3.5-4.9	*48.58	0.19
52-33, 3.5-4.9	*50.30	0.97
53-31, 3.5-4.9	*45.60	0.92
52-32, 3.5-4.9	*48.33	0.66
61-31, 3.5-4.9	47.63	1.03
61-32, 3.5-4.9	52.62	2.22
61-33, 3.5-4.9	48.17	1.08

Appendix Table 7

ESTIMATED PRICES OF COTTON TRADED ON TELCOT, FEBRUARY 9, 1979

Firm Offer Option

(Asterisk indicates that the estimated price has a standard error of estimation less than 1 cent and therefore should be highly credible)

Grade-Staple, Micronaire	Estimated price	Standard error of estimation
	Cents per pound	
32-30, 3.5-4.9	50.19	1.09
32-31, 3.5-4.9	*53.11	0.50
32-32, 3.5-4.9	48.84	1.12
41-30, 3.5-4.9	31.83	5.81
41-31, 3.5-4.9	52.70	1.52
41-32, 3.5-4.9	*53.19	0.74
41-33, 3.5-4.9	*53.64	0.73
42-30, 3.5-4.9	*51.05	0.89
42-31, 3.3-3.4	50.37	1.84
42-31, 3.5-4.9	*50.96	0.18
42-32, 3.0-3.2	49.31	3.35
42-32, 3.3-3.4	45.15	3.08
42-32, 3.5-4.9	*52.69	0.22
42-33, 3.5-4.9	54.30	1.47
43-30, 3.5-4.9	47.83	3.28
43-31, 3.5-4.9	45.09	1.66
43-32, 3.5-4.9	58.21	2.52
43-33, 3.5-4.9	38.34	5.38
51-30, 3.5-4.9	52.81	4.79
51-31, 3.5-4.9	54.32	1.65
51-32, 3.3-3.4	-	-
51-32, 3.5-4.9	46.21	1.37
51-33, 3.3-3.4	-	-
51-33, 3.5-4.9	72.77	5.25
52-30, 3.5-4.9	51.97	1.40
52-31, 3.3-3.4	49.92	2.76
52-31, 3.5-4.9	*49.57	0.84
52-32, 3.3-3.4	49.75	1.18
52-32, 3.5-4.9	*49.29	0.75
52-33, 3.5-4.9	46.37	2.50
53-31, 3.5-4.9	60.14	8.96
52-32, 3.5-4.9	28.57	14.25
61-31, 3.5-4.9	51.84	3.04
61-32, 3.5-4.9	44.40	5.59
61-33, 3.5-4.9	43.77	7.10

Table 1--Numbers of lots and bales of cotton traded on TELCOT, and TELCOT statements available and included in the analysis, February 5-9, 1979

February 1979	Number of lots			Number of bales		
	Traded	TELCOT statements	Analyzed	Traded	TELCOT statements	Analyzed
Fifth	257	229	214	5,269	4,206	3,732
Sixth	208	184	166	4,223	3,227	2,838
Seventh	295	253	232	7,047	5,831	5,354
Eighth	270	220	200	6,814	4,894	4,410
Nineth	467	414	360	14,053	11,866	9,541
Weekly total	1,497	1,300	1,172	37,406	30,024	25,875
Ave. lot size				25	23	22

Table 2--Grade, staple and micronaire readings of TELCOT cotton used in the analysis, February 5-9, 1979

		February 5	February 6	February 7	February 8	February 9
Grade & Code				Bales		
Middling	31	40	48	76	275	75
Middling light spotted	32	466	217	389	336	613
Middling spotted	33	45	18	20	44	31
Strict low middling plus	40	9	4	23	70	10
Strict low middling	41	603	410	999	736	1,471
Strict low middling light spotted	42	1,524	1,187	2,322	1,458	3,896
Strict low middling spotted	43	110	105	126	137	346
Low middling plus	50	16	15	34	43	71
Low middling	51	288	243	564	582	1,185
Low middling light spotted	52	543	483	667	656	1,492
Low middling spotted	53	29	67	29	50	167
Strict good ordinary plus	60	1	-	12	2	9
Strict good ordinary	61	58	41	93	21	175
All grades		3,732	2,838	5,354	4,410	9,541
Staple (32nds of an inch)						
29 and shorter		122	38	81	55	181
30		437	295	498	377	1,035
31		1,164	909	1,765	1,173	3,447
32		1,512	1,135	2,292	1,990	3,701
33		350	389	616	728	1,049
34 and longer		59	72	102	87	128
All staples		3,644	2,838	5,354	4,410	9,541
Micronaire reading						
3.4 and below		1,012	583	814	743	1,391
3.5-4.9		2,675	2,199	4,465	3,446	8,045
5.0 and above		45	56	75	221	105
All mike readings		3,732	2,838	5,354	4,410	9,541
Quality reduced due to						
Bark		545	516	768	867	1,852
Grass		1	5	29	13	17

Table 3
Cotton lots and bales traded on TELCOT by trading options and by trading day
February 5-9, 1979

Trading Day	Regular Offer		Firm Offer		Total	
	Lots	Bales	Lots	Bales	Lots	Bales
2/5	168	2,416	46	1,316	214	3,732
2/6	134	2.160	32	678	166	2,838
2/7	165	3,313	67	2,041	232	5,354
2/8	155	3,122	45	1,288	200	4,410
2/9	190	3,422	170	6,119	360	9,541
Total	812	14,433	360	11,442	1,172	25,875
Ave. Lot Size		18		32		22

Table 4

Cotton lots and bales traded on TELCOT by warehouse location and by trading day, February 5-9, 1980

Location	Trading Day										Total	
	2/5		2/6		2/7		2/8		2/9			
	Lots	Bales	Lots	Bales	Lots	Bales	Lots	Bales	Lots	Bales	Lots	Bales
Lubbock	106	1,872	86	1,363	125	2,713	104	2,379	205	5,733	626	14,060
Altus	56	886	26	298	28	685	23	441	49	885	182	3,195
Memphis	3	70	5	148	7	163	4	99	5	84	24	564
Plainview	19	418	26	538	33	840	32	767	44	1,284	154	3,847
Sweetwater	30	486	23	491	36	950	36	713	54	1,361	179	4,001
Corpus Christi	-	-	-	-	-	-	-	-	1	136	1	136
Non-Coop	-	-	-	-	3	3	1	11	2	58	6	72
Total	214	3,732	166	2,838	232	5,354	200	4,140	360	9,541	1,172	25,875

Table 5
Lots and Bales of Cotton of Specific Grade, Staple and Micronaire Combinations Based on February 9, 1979, TELCOT TRADING

Grade-staple, micronaire	Lots havings : Specific quality	Number of bales
32-30, 3.5-4.9	7	19
32-31, 3.5-4.9	16	54
32-32, 3.5-4.9	11	33
41-30, 3.5-4.9	5	11
41-31, 3.5-4.9	22	62
41-32, 3.5-4.9	29	111
41-33, 3.5-4.9	8	34
42-30, 3.5-4.9	28	62
42-31, 3.3-3.4	3	6
42-31, 3.5-4.9	68	428
42-32, 3.0-3.2	4	4
42-32, 3.3-3.4	5	6
42-32, 3.5-4.9	84	388
42-33, 3.5-4.9	11	29
43-30, 3.5-4.9	6	12
43-31, 3.5-4.9	16	37
43-32, 3.5-4.9	11	17
43-33, 3.5-4.9	3	6
51-30, 3.5-4.9	3	3
51-31, 3.5-4.9	21	53
51-32, 3.3-3.4	1	3
51-32, 3.5-4.9	33	121
51-33, 3.3-3.4	3	3
51-33, 3.5-4.9	14	28
52-30, 3.5-4.9	10	35
52-31, 3.3-3.4	5	6
52-31, 3.5-4.9	41	134
52-32, 3.3-3.4	4	9
52-32, 3.5-4.9	48	169
52-33, 3.5-4.9	13	17
53-31, 3.5-4.9	6	11
53-32, 3.5-4.9	5	8
61-31, 3.5-4.9	4	7
61-32, 3.5-4.9	4	4
61-33, 3.5-4.9	3	4

Table 6

Impacts of cotton quality on prices received by farmers, February 5-9, 1979
Step I: Regression results based on average qualities of cotton lots traded on TELCOT

Trading day		Intercept	Variables: Leaf average	Color average	Staple average	Micronaire average	Bales	Coefficient of determination R^2	F-statistics	Standard error of estimation
2/5	Coefficients	33.954	- 1.676	- 1.717	0.696	1.266	-	.8376	269.6	0.653
	t-statistics		(-17.693) ***	(-16.052) ***	(11.773) ***	(13.155) ***			***	
2/6	Coefficients	32.851	- 1.602	- 1.848	0.697	1.298	-	.8569	241.0	0.654
	t-statistics		(-15.437) ***	(-18.701) ***	(11.154) ***	(11.843) ***			***	
2/7	Coefficients	36.143	- 1.738	- 1.568	0.655	0.855	0.005	.7958	176.2	.642
	t-statistics		(-18.155) ***	(-17.099) ***	(11.164) ***	(9.122) ***	(3.728) ***		***	
2/8	Coefficients	40.265	- 1.442	- 1.719	0.481	1.018	-	.8220	225.2	.672
	t-statistics		(-15.280) ***	(-17.002) ***	(8.563) ***	(9.203) ***			***	
2/9	Coefficients	39.561	- 1.908	- 1.827	0.595	0.995	0.003	.8485	396.7	.584
	t-statistics		(-30.229) ***	(-25.929) ***	(13.673) ***	(12.756) ***	(3.004) ***		***	
Week	Coefficients	37.604	- 1.657	- 1.683	0.587	1.094	0.003	.7655	761.3	.768
	t-statistics		(-35.827) ***	(-34.297) ***	(19.994) ***	(21.410) ***	(4.675) ***		***	

Statistical test has shown that the regression coefficients significantly differ between the days (***)

*** indicates that the regression coefficient(s) is significantly different from zero at 99% probability level of confidence.
- denotes that the variable is not statistically significant and is excluded from the final analysis.

Table 7

ility on prices received by farmers, February 5-9, 1979
results based on grade details and averages of other
cities of cotton lots traded on TELCOT

Variables										Coefficient of determination R^2	F-statistics	Standard error of estimation
40	Grade 41	Grade 42	Grade 43	Grade 50	Grade 51	Grade 52	Grade 53	Grade 60	Grade 61			
18	0.039	0.007	-0.100	-0.074	0.009	-0.022	-0.371	-0.882	-0.185	.5606	16.275	1.078
79)	(3.186)	(1.091)	(-2.213)	(-0.448)	(0.428)	(-1.554)	(-3.021)	(-0.807)	(-3.145)			
	***		**				***		***		***	
18	0.041	0.013	-0.145	-0.003	0.008	-0.026	-0.131		-0.022	.4817	10.023	1.286
79)	(2.120)	(1.250)	(-2.466)	(-0.016)	(0.335)	(-1.391)	(-2.243)		(-0.445)			
	**		***				**				***	
13	0.029	0.014	-0.059	-0.051	0.011	-0.027	-0.466	-0.095	-0.067	.5090	14.930	1.018
18)	(4.753)	(2.667)	(-1.737)	(-0.552)	(0.908)	(-2.161)	(-4.151)	(-0.817)	(-2.734)			
	***	***	*			**	***		***		***	
15	0.039	0.015	-0.034	-0.285	0.026	0.003	-0.311	0.876	-0.171	.4873	11.7	1.174
17)	(2.302)	(1.833)	(-0.724)	(-1.992)	(1.313)	(0.253)	(-3.793)	(0.516)	(-1.020)			
	**	*		**			***				***	
13	0.023	0.013	-0.118	-0.106	0.030	-0.011	0.013	-0.342	-0.077	.3778	13.9	1.201
16)	(2.561)	(2.805)	(-3.976)	(-1.299)	(2.979)	(-1.709)	(0.616)	(-1.055)	(-2.096)			
	***	***	***		***	*			**		***	
15	0.031	0.012	-0.082	-0.124	0.020	-0.012	-0.036	-0.132	-0.067	.3998	51.3	1.234
18)	(7.021)	(4.399)	(-4.656)	(-2.444)	(3.275)	(-2.684)	(-2.026)	(-1.050)	(-3.512)			
	***	***	***	***	***	***	**		***		***	

lays (***).

it, respectively, 90%, 95%, or 99% probability level of confidence.

d tests, because there are no prior assumptions about their signs.

Table 8

ton quality on prices received by farmers, February 5-9, 1979
gression results based on staple length details and averages
other qualities of cotton lots traded on TELCOT

Variables						Coefficient of determination R^2	F-statistics	Standard error of estimation
taple 29 and less	Staple 30	Staple 31	Staple 32	Staple 33	Staple 34 and better			
-0.054 -1.605) *	0.014 (1.264)	-0.022 (-2.682) ***	0.016 (2.254) **	0.032 (1.719) *	-0.054 (-1.647) *	.7550	69.8 ***	0.812
-0.232 -3.015) ***	-0.022 (-1.049)	0.002 (0.165)	0.009 (1.137)	-0.002 (-0.095)	0.080 (1.396)	.7784	60.9 ***	.827
-0.059 -1.768) *	-0.011 (-0.997)	0.001 (0.186)	0.013 (2.526) ***	0.021 (1.611)	-0.022 (-0.867)	.7145	61.7 ***	.766
-0.102 -1.959) **	-0.040 (-2.294) **	0.005 (0.559)	0.005 (1.144)	0.008 (0.795)	0.043 (1.283)	.7320	81.4 ***	.732
-0.036 -2.254) **	-0.016 (-2.465) ***	-0.002 (-0.751)	0.010 (3.364) ***	0.018 (2.869) ***	0.002 (0.091)	.8033	158.8 ***	.670
-0.028 -1.902) *	-0.010 (-2.019) **	-0.001 (-0.518)	0.009 (4.038) ***	0.016 (3.024) ***	-0.003 (-0.171)	.7041	307.2 ***	.865

differ between the days (***)

y different from zero at, respectively, 90%, 95%, or 99% probability level of confidence.

iled tests, because there are no prior assumptions about their signs.

Table 9

Impact of cotton quality on prices received by farmers, February 5-9, 1979
Step IV: Regression results based on micronaire details and averages of other qualities of cotton traded on TELCOT

Trading day		Intercept	Variables: Average	Average	Staple average	Mike 3.4 and less	Mike 3.5-4.9	Mike 5.0 and higher	Coefficient of determination R^2	F-statistics	Standard error of estimation
2/5	Coefficients	42.614	- 1.920	- 1.994	0.623	-0.017	0.011	0.017	.7377	97.0	.834
	t-statistics		(-16.131) ***	(-14.819) ***	(8.182) ***	(-4.612) ***	(3.257) ***	(0.405)		***	
2/6	Coefficients	40.745	- 1.765	- 1.960	0.630	-0.027	0.010	-0.014	.7685	88.0	.838
	t-statistics		(-13.393) ***	(-15.570) ***	(7.880) ***	(-4.118) ***	(3.647) ***	(-0.575)		***	
2/7	Coefficients	39.949	-1.821	-1.747	0.663	-0.034	0.009	-0.035	.7750	129.2	.675
	t-statistics		(-17.988) ***	(-18.297) ***	(10.710) ***	(-5.802) ***	(5.614) ***	(-2.579) ***		***	
2/8	Coefficients	45.511	-1.573	-1.969	0.470	-0.020	0.007	-0.020	.7710	108.3	.766
	t-statistics		(-14.232) ***	(-17.170) ***	(7.308) ***	(-3.599) ***	(3.646) ***	(-1.942) **		***	
2/9	Coefficients	44.908	-1.946	-1.925	0.560	-0.021	0.006	-0.018	.8046	242.2	.665
	t-statistics		(-27.023) ***	(-24.160) ***	(11.330) ***	(-5.731) ***	(5.212) ***	(-1.162)		***	
Week	Coefficients	44.098	-1.782	-1.877	0.543	-0.020	0.009	-0.030	.7061	466.6	.861
	t-statistics		(-34.386) ***	(-34.621) ***	(16.567) ***	(-8.701) ***	(9.629) ***	(-3.797) ***		***	

Statistical test has shown that the regression coefficients significantly differ between the days (***)

** or *** indicates that the regression coefficient(s) is significantly different from zero at, respectively, 95% or 99% probability level of confidence.

t-tests for the micronaire coefficients are two-tailed tests, because there are no prior assumptions about their signs.

Table 10

Impacts of trading options on cotton prices received by farmers trading on TELCOT, February 5-9, 1979

Trading day	Trading option	Intercept	Variables: Leaf average	Color average	Staple average	Micronaire average	Number of bales	Coefficient of determination R^2	F-statistics	Standard error of estimation	Grouping significance
2/5	Regular offer	33.397	- 1.687 (-15.681) ***	- 1.629 (-13.673) ***	0.712 (10.714) ***	1.235 (10.968) ***	-	.8353	206.6 ***	.659	**
	Firm offer t-statistics	32.951	- 1.702 (- 8.443) ***	- 2.014 (- 8.545) ***	0.734 (5.896) ***	1.455 (7.275) ***	-	.8865	80.0 ***	.575	
2/6		Grouping by trading options not statistically significant at an acceptable level.									
2/7		Grouping by trading options not statistically significant at an acceptable level.									
2/8	Regular offer t-statistics	37.774	- 1.467 (-13.797) ***	- 1.711 (-15.334) ***	0.555 (7.916) ***	1.062 (8.529) ***	-	.8499	212.4 ***	.658	(89%)
	Firm offer t-statistics	44.317	- 1.276 (- 5.847) ***	- 1.492 (- 5.670) ***	0.330 (3.401) ***	0.963 (3.708) ***	-	.6572	19.2 ***	.691	
2/9	Regular offer t-statistics	40.668	- 1.916 (-22.715) ***	- 1.894 (-21.621) ***	0.550 (9.344) ***	1.101 (10.385) ***	0.002 (1.436) *	.8685	243.1 ***	0.592	**
	Firm offer t-statistics	36.940	- 1.850 (-19.578) ***	- 1.628 (13.851) ***	0.679 (10.680) ***	0.868 (7.740) ***	0.002 (1.742) * *	.8171	146.6 ***	0.557	

*, **, *** indicates that the regression coefficient(s) is significantly different from zero at, respectively, 90%, 95%, or 99% probability level of confidence.
- denotes that the variable is not statistically significant and is excluded from the final analysis.

Table 11

Impacts of Trading Options, Warehouse Locations and Buyers' Preferences on Cotton Price

	2/5	2/6	2/7	2/8	2/9
Intercept	30.183	31.068	34.678	40.772	38.606
Ave. Leaf	- 1.704 (-15.304) ***	- 1.627 (-12.605) ***	- 1.690 (-13.761) ***	- 1.325 (-12.684) ***	- 1.685 (-22.841) ***
Ave. Color	- 1.560 (-12.377) ***	- 1.676 (-12.913) ***	- 1.480 (-14.663) ***	- 1.427 (-12.812) ***	- 1.695 (-19.945) ***
Ave. Staple	0.834 (12.106) ***	0.755 (9.653) ***	0.725 (10.606) ***	0.484 (8.399) ***	0.623 (13.267) ***
Ave. Micronaire	1.185 (10.248) ***	1.310 (10.287) ***	0.585 (5.001) ***	0.663 (5.624) ***	0.733 (8.028) ***
Trading Option Regular Offer	- 0.273 (- 2.417) **	- 0.003 (- 0.017)	-0.018 (-0.165)	-0.412 (-1.159)	-0.143 (-2.143) **
Warehouses Altus	- 0.453 (- 3.114) ***	- 0.225 (- 1.179)	0.167 (0.813)	0.293 (1.371)	0.266 (1.957) **
Memphis	- 0.192 (- 0.531)	- 0.314 (- 0.904)	-0.029 (-0.109)	0.331 (1.047)	-0.188 (-0.623)
Plainview	- 0.158 (- 0.771)	0.101 (0.571)	0.211 (1.438)	-0.014 (-0.089)	0.078 (0.759)
Sweetwater	- 0.197 (- 1.443)	-0.103 (-0.592)	-0.021 (-0.150)	0.153 (1.155)	-0.070 (-0.726)
Buyers No. 1	--	--	--	0.139 (0.811)	0.266 (2.178) **

No. 2	--	--	--	-0.007 (-0.040)	0.345 (3.423) ***
No. 3	-0.028 (-0.164)	-1.149 (-2.645) ***	--	--	--
No. 4	0.464 (1.872) *	-0.490 (-1.502)	0.347 (2.117) **	-0.048 (-0.249)	0.557 (3.630) ***
No. 6	-1.204 (-3.627) ***	-0.285 (-1.340)	-0.635 (-1.849) *	--	-0.604 (-2.734) ***
No. 7	0.136 (1.093)	-0.424 (-2.646) ***	-0.011 (-0.085)	0.167 (0.724)	-0.062 (-0.461)
No. 8	-0.100 (0.535)	-0.145 (-0.787)	0.165 (1.020)	-0.215 (-0.755)	--
No. 9	-1.247 (-3.267) ***	-0.450 (-1.282)	-0.291 (-1.108)	-0.050 (-0.267)	0.345 (1.727) *
No. 10	0.020 (0.092)	0.066 (0.211)	0.161 (0.623)	-0.782 (-2.832) ***	-0.061 (-0.455)
No. 11	-0.463 (-1.348)	--	-0.862 (-3.459) ***	-0.418 (-2.789) ***	-0.495 (-1.670) *
No. 12	--	-0.491 (-2.055) **	--	-0.444 (-1.050)	0.037 (0.278)
No. 13	0.205 (0.575)	-0.747 (-1.536)	-0.283 (-0.989)	-0.420 (-1.916) *	-0.202 (-1.302)
Bales	--	--	0.003 (1.826) *	--	--

* ** *** indicates that the regression coefficient(s) is significantly different from zero at, respectively, 90%, 95% or 99% profability level of confidence.
t-tests for the coefficient of the dummy variables are two-tailed tests, because there are no prior assumptions about their signs.

-- No purchase.

Table 12

Number of cotton lots having negative predicted errors, by trading options and by day of TELCOT trading, February 5-9, 1979: Model I

Day	Regular offer			Firm offer		
	Total Lots	Lots having negative predicted errors	Percent	Total lots	Lots having negative predicted errors	Percent
2/5	168	86	51	46	13	28
2/6	134	63	47	32	12	38
2/7	165	66	40	67	25	37
2/8	155	73	47	45	13	29
2/9	190	98	52	170	73	43

Table 13

Significant Tests of Pricing Differences between Warehouse Locations for Cotton Traded on TELCOT, February 5-9, 1979

Warehouse compared	2/5	2/6	2/7	2/8	2/9
Altus - Lubbock	***	-	-	***	**
Altus - Plainview	-	-	*	**	(>50%)
Altus - Sweetwater	***	(>50%)	**	*	**
Lubbock - Plainview	*	(>75%)	(>75%)	(>75%)	**
Lubbock - Sweetwater	***	(>75%)	(>75%)	(>50%)	(>75%)
Plainview - Sweetwater	-	-	*	-	-

*, **, or *** indicates that the test is significant at, respectively, 90%, 95% or 99% probability level of confidence.

Table 14

Precentage of Cotton Lots Having Negative Predicted Errors by Warehouse Location, February 5-9, 1979: Model I

	Lubbock	Altus	Plainview	Sweetwater
2/5	33	64	68	47
2/6	43	50	50	43
2/7	43	32	27	39
2/8	39	43	56	42
2/9	44	47	48	56

Table 15

Impact of buyers' preferences on cotton prices received by farmers trading on TELCOT, February 5-9, 1979

Buyer No.		Variables						Coefficient of Determination R^2	F-statistics	Standard error of estimation	Number of lots
		Intercept	Leaf average	Color average	Staple average	Micronaire average	Number of bales				
1	Coefficients	35.257	- 1.223	- 0.753	0.645	0.542	-	.4418	6.5	0.947	38
	t-statistics		(- 4.044) ***	(- 2.323) **	(4.404) ***	(1.862) *			***		
2	Coefficients	29.258	- 1.315	- 1.020	0.799	1.351	-	.7886	62.5	0.580	72
	t-statistics		(- 6.279) ***	(- 8.950) ***	(8.101) ***	(7.467) ***			***		
3	Coefficients	47.051	- 1.558	- 2.225	0.315	1.048	-	.8765	39.0	0.879	27
	t-statistics		(- 4.476) ***	(- 4.649) ***	(0.938)	(2.594) **			***		
4	Coefficients	24.796	- 1.749	- 1.364	0.991	1.162	-	.8068	54.3	0.694	57
	t-statistics		(- 6.712) ***	(- 4.964) ***	(7.578) ***	(3.906) ***			***		
5	Coefficients	34.524	- 1.575	- 1.494	0.685	0.941	-	.7220	152.6	0.763	240
	t-statistics		(-14.071) ***	(-13.095) ***	(11.919) ***	(7.031) ***			***		
6	Coefficients	34.316	- 1.679	- 1.413	0.627	1.390	-	.7866	24.9	0.612	32
	t-statistics		(- 6.464) ***	(- 5.840) ***	(5.258) ***	(6.329) ***			***		
7	Coefficients	27.535	- 1.510	- 1.275	0.910	0.733	-	.6887	88.5	0.710	165
	t-statistics		(-12.475) ***	(-10.365) ***	(8.946) ***	(5.935) ***			***		
8	Coefficients	34.143	- 1.821	- 1.350	0.697	1.059	0.005	.8016	49.3	0.458	67
	t-statistics		(-11.033) ***	(- 9.215) ***	(7.525) ***	(5.819) ***	(3.198) ***		***		
9	Coefficients	56.498	- 2.046	- 2.125	0.144	0.419	-	.7660	22.1	0.828	32
	t-statistics		(- 5.900) ***	(- 6.704) ***	(0.623)	(1.142)			***		
10	Coefficients	48.682	- 1.811	- 1.896	0.328	0.697	-	.5675	29.2	0.750	94
	t-statistics		(- 9.282) ***	(- 7.055) ***	(3.448) ***	(3.278) ***			***		
11	Coefficients	50.405	- 1.545	- 1.985	0.253	0.459	-	.8318	40.8	0.589	38
	t-statistics		(- 7.523) ***	(- 9.527) ***	(1.931) *	(2.162) **			***		
12	Coefficients	49.916	- 1.969	- 2.403	0.388	0.191	0.009	.8776	38.7	0.512	35
	t-statistics		(- 8.152) ***	(- 7.518) ***	(2.618) ***	(0.770)	(3.742) ***		***		
13	Coefficients	32.320	- 1.361	- 1.145	0.714	0.794	0.009	.8765	35.5	0.556	21
	t-statistics		(- 7.197) ***	(- 4.935) ***	(4.256) ***	(2.763) ** *	(2.110) **		***		

Statistical test has shown that the regression coefficients significantly differ between the buyers (***)

*, **, *** indicates that the regression coefficient(s) is significantly different from zero at, respectively, 95% or 99% probability level or confidence.
- denotes that the variable is not statistically significant and is excluded from the final analysis.

or

Table 16

Test of pricing differences between trading days for cotton traded on TELCOT, February 5-9, 1979

Days compared	Degree of freedom N1	Degree of freedom N2	F-statistics	Level of significance
5-6	5	370	34.58	***
5-7	5	436	20.31	***
5-8	5	404	13.30	***
5-9	5	564	7.59	***
6-7	5	388	7.47	***
6-8	5	356	7.56	***
6-9	5	516	82.56	***
7-8	5	422	2.75	** (> 97.5%)
7-9	6	580	46.40	***
8-9	5	550	38.29	***

** or *** indicates that the test is significant at, respectively, 95% or 99% probability level of confidence.

Table 17

Estimated Prices of Dominant Grades of Cotton Traded on TELCOT, Micronaire 3.5-4.9, February 5-9, 1979

Grade-Staple	2/5	2/6	2/7	2/8	2/9	Week
	Cents per pound					
41-31	52.03 (0.07)	50.68	51.41	51.60 (0.69)	51.15 (0.28)	52.08 (0.18)
41-32	53.84 (0.17)	51.86	52.02	51.57 (0.74)	53.86 (0.21)	53.15 (0.18)
42-30	49.90 (0.20)	48.24	49.81	49.79 (0.35)	51.59 (0.65)	49.06 (0.22)
42-31	50.68 (0.07)	50.66	50.57	50.71 (0.23)	50.88 (0.07)	50.79 (0.07)
42-32	52.04 (0.08)	50.72	51.36	51.19 (0.22)	52.36 (0.10)	51.72 (0.09)
51-32	52.32 (0.32)	50.65	50.85	50.87 (0.30)	49.92 (0.37)	51.52 0.25)
52-31	49.14 (0.24)	48.37	48.80	48.60 (0.41)	49.83 (0.35)	48.32 (0.28)
52-32	50.19 (0.26)	48.84	48.87	49.46 (0.44)	48.00 (0.26)	48.94 (0.22)

Number in the parenthesis is the standard error of estimation of the predicted price. It is zero for the predicted prices for February 6th and 7th.

Estimated Prices of Dominant Grades of Cotton Traded on TELCOT

Micronaire 3.5 - 4.9, February 5-9, 1979

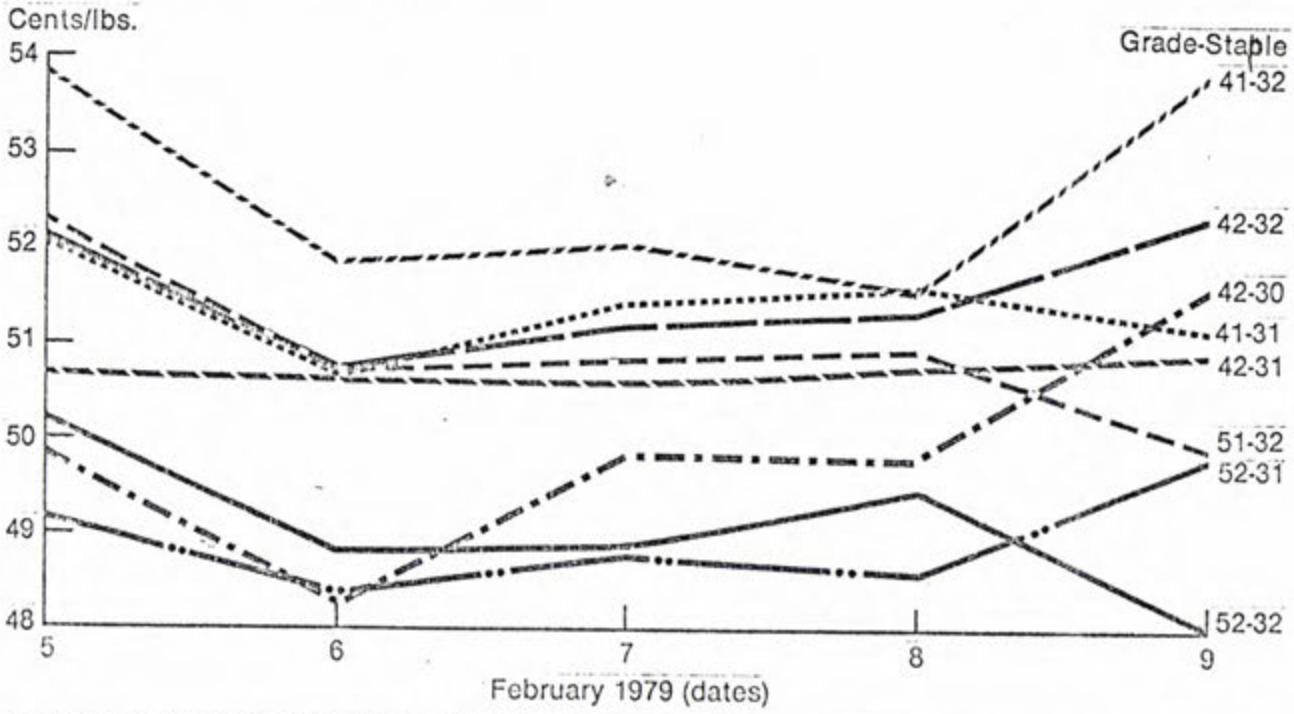

Table 18

Estimated prices of dominant Grades of cotton traded on TELCOT, Micronaire 3.5-4.9, by Trading option, for February 9 and for the week February 5-9, 1979

	February 9		Weekly February 5-9	
Grade-Staple	Regular Offer	Firm Offer	Regular Offer	Firm Offer
32-31	52.94 (0.83)	53.11 (0.50)	51.54 (0.30)	52.18 (0.57)
41-32	53.32 (0.39)	53.19 (0.74)	53.59 (0.17)	53.94 (0.65)
42-30	50.71 (0.80	51.05 (0.89)	49.50 (0.25)	48.09 (0.37)
42-31	50.76 (0.11)	50.96 (0.18)	50.67 (0.07)	51.25 (0.16)
42-32	52.27 (0.09)	52.69 (0.22)	51.93 (0.08)	50.95 (0.23)
52-31	49.44 (0.25)	49.57 (0.84)	49.36 (0.30)	47.36 (0.58)
52-32	48.58 (0.19)	49.29 (0.75)	48.63 (0.21)	49.39 (0.57)

Table 19

Number of Cotton Lots Having Negative Predicted Errors by Trading Option and by Day of TELCOT Trading, February 5-9, 1979: Model II

Day	Regular offer			Regular offer		
	Total lots	Lots having negative predicted errors	Percent	Total lots	Lots having negative predicted errors	Percent
2/5	89	51	57	18	8	44
2/6	62	31	50	15	7	47
2/7	78	53	68	25	13	52
2/8	61	37	61	18	7	39
2/9	107	66	62	70	30	43

Table 20

Predicted Prices of dominant Grades of Cotton Traded on TELCOT, Micronaire 3.5-4.9, February 5-9, 1979, by Warehouse Location

Grade-Staple	Altus	Lubbock	Plainview	Sweetwater
	Cents per pound			
41-32	54.33 (0.39)	52.52 (0.30)	52.59 (0.30)	52.38 (0.45)
41-33	53.69 (0.44)	59.35 (0.85)	53.19 (0.46)	57.12 (0.81)
42-31	50.39 (0.21)	50.93 (0.09)	50.49 (0.13)	51.54 (0.32)
42-32	51.83 (0.14)	51.63 (0.14)	52.07 (0.22)	51.49 (0.30)
51-32	52.20 (0.49)	52.19 (0.50)	50.75 (0.30)	50.72 (0.52)
52-32	48.80 (0.26)	48.61 (0.44)	48.62 (0.44)	48.55 (0.92)

Table 21

Information on market conditions embodied in the TELCOT prices, and the Dispersion of Estimated Cotton Prices, February 5-9, 1979

	2/5	2/6	2/7	2/8	2/9
Estimated Variance as indicator of information quality	.240	.194	.167	.165	1.430
Estimated prices of eight qualities of cotton					
Maximum Prices (¢/lb)	53.84	51.86	52.02	51.60	53.86
Minimum Price (¢/lb)	49.14	48.24	48.80	48.60	48.00
Range of premium/discount (¢/lb)	4.70	3.62	3.22	3.00	5.86
Standard Deviation (¢/lb)	1.55	1.33	1.20	1.08	1.77