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University of Tennessee Agricultural Experiment Station

John R. Brooker

Danny E. Terry

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University of Tennessee Agricultural Experiment Station

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John R. Brooker
and
Danny E. Terry



**Department of Agricultural Economics
and
Rural Sociology**

COTTON MARKETING ALTERNATIVES

By John R. Brooker and Danny E. Terry*

Introduction

Tennessee cotton producers have been confronted with complex production marketing decisions during the past few years. Prior to 1973, cotton prices were essentially controlled by Commodity Credit Corporation (CCC) surpluses [1]. The CCC set prices by the loan rate; therefore, the existing attitude of cotton growers seemed to be that "...the only way for a producer to maximize income was to maximize production on allotted acres" [3, p. 2]. Since 1973, the price of cotton has been determined by a relatively free competitive market which has substantially increased marketing opportunities for cotton producers.¹ This in turn has increased the need for producer understanding of these opportunities.

Producers first make the decision to produce cotton, and subsequently determine acreage to plant. These basic production decisions should be based at least partially on expected prices for cotton and cotton's main competitor for production resources in Tennessee--soybeans. Along with the acreage decision, producers need to consider marketing opportunities. However, due to past conditioning, most producers

*Professor and Graduate Research Assistant, Department of Agricultural Economics and Rural Sociology, University of Tennessee, Knoxville.

¹The average price received for upland cotton by growers for the 1981 calendar year was 63.2 cents per pound, which was 7.67 cents below the 70.87 cents target price. This was the first year since 1974 that the average price received by cotton farmers was below the target price. Eligible growers received deficiency payments as determined by the Agricultural Stabilization and Conservation Service [6].

merely sell at harvest even though other alternatives are available [2 and 4].

Several basic marketing alternatives are available to cotton growers. First, the most simplistic alternative is to sell for cash at harvest.² The grower takes cotton to the gin and accepts a given price from any available buyer. Second, growers may sell prior to harvest by means of a forward cash contract. The cash contract may be established before or after planting with a fixed price or with a "call" price. Third, futures markets permit growers to hedge cotton prior to harvest and even after harvest if the cotton is placed in storage. Fourth, growers may also place cotton in storage without establishing a hedge. Fifth, marketing co-ops with headquarters in Mississippi are available to many farmers. Sixth, a procedure used by some growers, and thus regarded as a viable marketing alternative, is to sell for cash at harvest and use the money to speculate on cotton futures [2]. Seventh, growers may sell and ship cotton to buyers with an agreement that price will be determined later--referred to as deferred pricing. A succinct listing of the advantages and disadvantages of each of these alternatives is presented in Table 1.

Objectives

The objectives of this study were to: 1) identify marketing alternatives being used by Tennessee cotton producers; 2) determine the extent to which each marketing alternative is being used; and 3) examine

²Receiving the CCC loan is considered a cash market sale because the grower is delivering the crop and receiving payment. However, the grower does have the opportunity to remove his cotton from CCC storage (subject to some restrictions) and sell it on the open market, thus creating a type of storage alternative [3].

Table 1. Producers' perspectives of advantages and disadvantages associated with nine marketing alternatives

I. Sell for cash at harvest

ADVANTAGES:

1. Simple, requires little time or expense
2. Eliminates risk of "over selling" actual production (limited to acreage contract)
3. A buyer always willing to purchase at "his" offer price
4. Deposit for a margin account not required
5. Cash immediately available for paying current production debts and family living expenses

DISADVANTAGES:

1. Assumes the risk of a price decline during the production period
2. Increases difficulty in obtaining production loans
3. Complicates short- and long-term production and investment decisions
4. Reduces flexibility in management of income and cash flow for debt payment purposes

II. Forward contract with fixed price

ADVANTAGES:

1. Locks in a profitable price for all or substantial portions of the crop
2. Shifts risk of a price decline to the buyer
3. Producer is able to concentrate on production
4. Brokerage commission and margin deposits unnecessary
5. May enable producer to borrow more operating capital

DISADVANTAGES:

1. Lack of continuous availability in forward contract market
2. Reduces flexibility by eliminating the potential for greater profits should prices rise
3. Places producer in an unfavorable position should he fail to deliver the quantity specified
4. Uncertainty of integrity and financial status of buyers
5. Difficulty of including all specifications and exceptions in contracts

III. Forward contract with call price

ADVANTAGES:

1. Shifts risk of a price decline after price is "called" to buyer
2. Producer is able to concentrate on production
3. Brokerage commission and margin deposits unnecessary
4. Greater price flexibility than fixed price contracts
5. Enables producer to borrow more operating capital

Table 1 (continued)

DISADVANTAGES:

1. Lack of continuous availability of forward contract market
2. Grower may be in an unfavorable position should he fail to produce the quantity specified
3. Uncertainty of integrity and financial status of buyers
4. Difficulty of including all specifications and exceptions in contracts
5. Risk of price decline until price is "called"

IV. Store for later cash sale, unhedged

ADVANTAGES:

1. Provides a means of deferring income for tax purposes
2. Funds for current expenses may be available through a government price support loan
3. May be used for accumulation of a larger lot
4. Allows the grower the opportunity to wait for anticipated higher prices

DISADVANTAGES:

1. Interest charges may be prohibitive
2. Necessity of analysis in deciding if and when to store
3. Storage and insurance costs may be prohibitive
4. Opportunity costs of storage should be considered
5. Price and income uncertainty may make it more difficult to obtain financing
6. Risk of even further price decline

V. Store for later cash sale, hedged

ADVANTAGES:

1. Provides a means of deferring income for tax purposes
2. Funds for current expenses may be available through a government price support loan
3. May be used for accumulation of a larger lot
4. Transfers risk of a price decline
5. Can use storage for the purpose of making a storage profit

DISADVANTAGES:

1. Due to size of futures contract, may not be possible to hedge without speculating on a number of bales
2. Storage and insurance costs must be considered
3. Possibility of inaccurate analysis of futures basis and losing on storage
4. Opportunity costs on income must be considered
5. Using futures contracts effectively requires time and understanding
6. Requirements of margin deposits, maintenance margin and commission fees increase the cost of marketing
7. Tendency on part of some farmers to switch from a hedged position to a speculative position
8. High interest rates can be a problem and must be considered

Table 1 (continued)

VI. Hedge in futures market before harvest

ADVANTAGES:

1. Permits flexibility in management of income and cash flow
2. The option to satisfy a futures contract by making an offsetting transaction permits considerable marketing and pricing flexibility
3. Risks associated with a price decline during planting, growing and storage can be reduced
4. Should be easier to obtain adequate financing

DISADVANTAGES:

1. Each contract traded is for a specific quantity--50,000 lbs. or approximately 103 to 105 bales
2. Using futures contracts to hedge effectively requires time and understanding
3. Requirements of margin deposits, maintenance margin and commission fees increase the cost of marketing
4. Although unusual, the futures market can move the daily limit in seconds and prevent the timely closing out of a position
5. Tendency of some farmers to switch from a hedged position to a speculative position

VII. Sell for cash at harvest and speculate in the cotton futures market

ADVANTAGES:

1. Immediate cash available for paying current debts
2. No storage and insurance costs
3. Lower income opportunity costs due to low margin requirement regarding the value of cotton
4. High interest rates are not a problem as with storage
5. Allows farmer to benefit from expected price rise in future without storage of cotton

DISADVANTAGES:

1. Requirements of margin deposits, maintenance margin and commission fees increase the cost of marketing
2. Must assume the risk of a price decline as a pure speculator
3. Contract size is for 50,000 lbs. or 103 to 105 bales
4. Necessitates thorough and careful analysis of price-making forces in deciding if and when to speculate

VIII. Deliver at harvest with deferred pricing

ADVANTAGES:

1. Allows producer to take advantage of price rise after harvest
2. Provides a means of deferring income for tax purposes
3. No storage and insurance costs
4. Obtain basis improvement

Table 1 (continued)

DISADVANTAGES:

1. Must assume the risk of a price decline
2. Farmer must continuously monitor price trends, and supply and demand situations to determine when to "set" price
3. Income opportunity cost until cotton is priced
4. Price and income uncertainty may make it more difficult to obtain financing
5. Risk of buyer default

IX. Sell through a cooperative

ADVANTAGES:

1. Producer's efforts may be concentrated on production and harvest activities
2. Over a period of time, producers may realize a higher average price than if they had marketed independently
3. Generally more marketing alternatives available and increased competitive power in world markets due to greater volume
4. Greater possibilities for reducing risks by utilizing various forward-pricing, delayed-pricing, and hedging techniques

DISADVANTAGES:

1. Producers forego the right of independent action
2. Hiring competent management and delegating appropriate responsibility and authority
3. Failure of some members to recognize the necessity of providing a long-term financial base for their cooperative

the attitudes of growers regarding the use of each marketing alternative. This study also provides data needed in future research focusing on grower marketing strategies to either minimize risk or maximize returns. The term strategy is used to refer to a particular combination of marketing alternatives available to producers.

Source of Data

A list of all cotton growers in West Tennessee was obtained from each county's Agricultural Stabilization and Conservation Service (ASCS) office. More than 97% of Tennessee's cotton growers in 1980 were located in counties west of the Tennessee River; 82% being concentrated in six counties--Crockett, Haywood, Gibson, Madison, Lauderdale, and Dyer (Table 2). Based on the density of producers west of the Tennessee River, a mail questionnaire was sent to 20% of these growers selected at random. This questionnaire was designed to ascertain the number of growers using each marketing alternative. The list of respondents was then used to form a second population from which to draw a random sample for extensive personal interviews. The personal interview was used to obtain information regarding crops grown in 1979 and 1980, the marketing alternatives utilized, attitudes concerning these alternatives, and the rationale for using or not using a particular marketing alternative.

Personal Survey Results

Based on the responses of the cotton growers participating in the survey, 90% of the growers also produced soybeans in 1980 (Table 3).

Table 2. Cotton acreages planted in 1979 and 1980, number of cotton growers, and number of survey respondents, by selected Tennessee counties

County	Acres planted ^a		Total number of growers ^b	Growers responding to survey	
	1979	1980		Mail ^c	Personal ^d
	- - - acres - - -		- - - - - number - - - - -		
Crockett	60,800	65,500	1,836	26	21
Haywood	51,400	57,650	772	10	6
Fayette	26,700	30,700	158	4	0
Tipton	23,700	29,100	215	11	8
Madison	21,300	19,900	544	12	8
Shelby	13,600	18,900	188	5	2
Gibson	14,600	17,600	639	12	6
Lauderdale	7,500	11,800	445	18	6
Hardeman	6,950	9,400	60	1	0
Dyer	7,200	9,200	299	11	7
Lake	1,660	5,000	28	5	1
Franklin	2,870	2,950	43	e	e
Lincoln	2,380	2,520	76	e	e
Carroll	1,950	2,040	37	0	0
Chester	2,000	1,450	57	0	0
McNairy	880	1,410	47	0	0
Henderson	1,600	1,240	28	3	3
Rutherford	890	1,130	-10	e	e
Obion	1,030	1,100	34	1	0
Weakley	650	430	16	1	0
Giles	300	365	-7	e	e
Hardin	114	335	4	0	0
Totals	250,000	290,000	5,543	110	68

^aTennessee Crop Reporting Service [5].

^bCounty Agricultural Stabilization and Conservation Service offices, 1980.

^cRespondents to a mail questionnaire sent to 20 percent of the registered cotton growers in each county, excluding those east of the Tennessee River.

^dRespondents to a personal interview conducted during the summer of 1981.

^eExcluded from both mail and personal survey.

Table 3. Acreages of crops grown in 1979 and 1980 by surveyed cotton growers in Tennessee

Crop	1979				1980				
	Growers number	Production			Growers number	Production			
		Total	Average	Range		Total	Average	Range	
		acres					acres		
Cotton	58 ^c	12,906	222	5-1,450	68	15,916	234	6-1,450	
Soybean	56	24,850	444	8-3,400	61	28,700	470	8-3,500	
Corn	12	1,139	95	8-400	11	1,231	112	8-500	
Wheat	5	785	157	10-475	5	925	185	10-475	
Wheat ^a	14	(2,492)	(178)	15-500	17	(3,488)	(205)	15-500	
Sorghum	1	30	30	--	2	222	111	22-200	
Other ^b	1	10	10	--	2	310	155	10-300	
No response	6	--	--	--	--	--	--	--	
Farm totals	--	39,702	640	6-5,200	--	47,304	696	6-4,360	

^aWheat was double-cropped with soybeans and not duplicated in calculating total acreage grown.

^bVegetables and peanuts.

^cOf 68 cotton growers interviewed, six did not report 1979 acreages and four did not grow cotton in 1979.

Nearly all of these growers stated that soybeans was the primary crop. The average acreage of soybeans per grower was twice that of cotton in both years. Wheat was produced by 37% of the growers in 1980; however, three-fourths of these growers were double-cropping wheat and soybeans. The average acreage per grower in 1980 was higher for all five crops than in 1979. Cotton acreage averaged 234 acres per grower in 1980, and ranged from 6 to 1,450 acres.

Total cotton production of the 68 surveyed growers was 10,280 bales in 1979 and 12,802 bales in 1980. Yields averaged 0.8 bales (384 lbs.) per acre in both years. The published average yield per acre for all Tennessee cotton was 0.74 bales (355 lbs.) in 1979 and 0.73 bales (350 lbs.) in 1980 [5]. The variation in yields among the surveyed growers was moderately higher in 1979 than in 1980.

To investigate the usage of available marketing alternatives, it is important to identify the decision maker--the farmer and/or the landlord. Among the 68 growers interviewed, 44 reported that they share-rented part or all of their cotton cropland. In most situations, 84%, the control of cotton marketing decisions was vested in the tenant. Nine percent of the growers reported that control was retained by the landlord and the remaining 7% said the marketing decision was shared between landlord and tenant.

The most frequently used marketing alternative among the 68 surveyed growers was to simply sell the cotton at harvest (Table 4). In other words, the time of sale was contingent upon the time selected to harvest the cotton and have it ginned. The second most frequently used marketing alternative was forward cash contracting at a fixed price. In 1980, 62% of the surveyed growers marketed some portion of their crop via a

Table 4. Frequency with which each marketing alternative was used in 1979 and 1980 by surveyed cotton growers in Tennessee

Marketing alternative	Growers ^a	
	1979 percent ^b	1980 percent ^b
Sell for cash at harvest	59	56
Forward contract with fixed price agreement	47	62
Store for later cash sale, unhedged	21	19
Forward contract with call price agreement	3	3
Deliver at harvest with deferred pricing	2	0
Sell for cash at harvest and speculate on futures market	0	1

^aSeveral growers used more than one marketing alternative each year.

^bPercentages based on the number of growers responding--58 in 1979 and 68 in 1980.

forward contract, compared to 47% in 1979. Approximately one-fifth of the surveyed growers stored their cotton after it was ginned.

While 56% of the surveyed growers sold cotton for cash at harvest in 1980, only 25% used this marketing alternative exclusively (Table 5). Other growers, 31%, combined the cash sale at harvest alternative with one or more of the other marketing alternatives. Some 22% of the growers in 1980 had a marketing strategy of selling a portion of their crop via a forward contract with a fixed price, while selling the rest of the crop at harvest. However, 29% of the growers did use forward contracts with fixed prices for marketing all of their 1980 crop.

A consistent characteristic of the surveyed cotton growers in 1979 and 1980 was the smaller quantities of cotton marketed per grower among those exclusively using cash sales versus those exclusively using forward contracts (Table 5). This would seem to imply that the larger acreage growers were more concerned with avoiding risk of a price decline during the growing season than the smaller acreage growers.

The surveyed growers were asked if they followed the same marketing strategy year after year. Approximately two-thirds of the growers reported that they usually modify their marketing strategy each year. When asked why they use a particular marketing alternative or do not use another alternative, the most frequently given reason for selling on the spot market at harvest was the need for cash to repay production loans and other expenses.

As noted earlier, the second most frequently used marketing alternative was forward contracting. When growers were asked why they do

Table 5. Marketing strategies used in 1979 and 1980 by surveyed cotton growers in Tennessee

Marketing strategy ^a	1979		1980	
	Growers percent	Average production per grower bales	Growers percent	Average production per grower bales
Sell for cash at harvest	38	45.7	25	41.4
Forward contract with fixed price	24	356.1	29	264.7
Forward contract with "call" price	2	183.0	2	202.0
Store for later cash sale, unhedged	9	70.6	7	61.0
Combined cash sale at harvest and forward contract with fixed price	12	262.0	22	282.6
Combined cash sale at harvest and delivery with deferred pricing	2	50.0		--
Combined cash sale at harvest and speculation in the futures market	0	--	2	120.0
Combined cash sale at harvest and unhedged storage	3	157.5	3	145.0
Combined forward contract with fixed pricing and unhedged storage	7	267.3	4	318.7
Combined forward contract with fixed price and forward contract with "call" price	0	--	2	45.0
Combined cash sale at harvest, forward contract with fixed price, and unhedged storage	2	215.0	4	218.0
Combined cash sale at harvest, forward contract with fixed price, and forward contract with "call" price	<u>2</u>	<u>270.0</u>	<u>—</u>	<u>--</u>
Total	101 ^b	--	100	--
Total number of growers	58	--	68	--

^aMarketing strategy refers to various combinations of marketing alternatives that a grower may use in each crop year.

^bDoes not equal 100 due to rounding error.

not forward contract each year, they said the decision was contingent upon the price being offered and the available information regarding price expectations. Due to this emphasis on price information by forward contracting growers, the source of this decision-making information is an important factor to consider. Market outlook reports by federal and state agencies were listed by 55% of the surveyed growers that forward contracted with a fixed price in 1980. The next two most used sources, cotton buyers and commodity brokers and/or "ticker tapes," were reported by 26% of the contracting growers. Television, newspapers, and other producers were reported as the information source by 21% of these growers. Of course, it must be acknowledged that the news media would obtain much of their information from futures markets and market outlook reports.

Forward contracting with a buyer provides the cotton grower an opportunity to sell some or all of his crop over a fairly long period of time. Among the surveyed growers in this study, the earliest dates reported were January 11 in 1979 and March 10 in 1980. The latest dates reported were August 15 in 1979 and October 6 in 1980. Thus, this 8 to 10 month period presents the grower considerable opportunity for evaluating offer prices. The distribution of contract signings, with respect to pre-planting, during planting, or post-planting are presented in Table 6. In 1979, 56% of the growers signed forward contracts prior to planting and 19% signed after planting, while in 1980 the number of contracts signed before planting was slightly less than the number signed after planting. The major reason given by the growers for signing at a particular time was satisfaction with available contract prices and desire to protect themselves from a price decline.

Table 6. Reasons reported by surveyed cotton growers in Tennessee, who forward contracted with a fixed price, for selecting a particular date to sign a contract in 1979 and 1980

Rationale	1979			1980		
	Contracting periods			Contracting periods		
	Pre-plant	At-plant	Post-plant	Pre-plant	At-plant	Post-plant
	- - - - - percentage of growers - - - - -					
Good price (and/or basis) and want protection against a price drop	56	15	19	48	17	55
Other	4	4	11	12	5	7

^aNumber of growers who signed a contract during each designated time period, stratified according to each grower's rationale for selecting a particular time period. Several growers signed contracts in more than one time period during each year.

Concluding Remarks

Based on the responses of the 68 growers participating in the personal survey, cotton is a secondary crop. The primary crop is soybeans, so cotton acreages expand or contract with changing expectations about the soybean market. Hence, in many instances it seems as though cotton is treated as a "step-child" and only given "left-overs" in the sense of acreage planted and of producer's time devoted to marketing.

The survey results from the West Tennessee cotton growers support the contention that most of these growers are either unfamiliar or uncomfortable with marketing alternatives and/or the implementation of these alternatives. Forward contracting is used by a large proportion of growers, but the decisions of when and how much to contract appear to be made "from-the-hip." Growers expressed a concern for the increased complexity of cotton marketing and the need for supportive, decision-making information.

Management of cash flow and the desire to "catch" as high a price as possible are the two motivating forces that dominated the marketing considerations. Evidently, since cotton is not the primary crop for many Tennessee growers, the marketing of cotton is viewed either as dependable source of cash or as a speculative venture. While this dichotomy may at first appear to be an error, the functional role that cotton production fulfills for the grower depends on his overall farming situation. Growers reported that they followed a secure, low risk marketing program with their primary crop (soybean) and more or less speculated with their return from cotton. On the other hand, growers who desired to accept greater

price risk with their soybean crop preferred to solidify their expected return from cotton early in the crop year in order to assure themselves of at least a certain level of cash income at harvest.

While the survey results revealed little use of any marketing alternatives other than to sell at harvest or forward contract, growers expressed a need for additional information regarding the use of storage, hedging, and even forward contracting. They also reported a need for greater insight into the interpretation of market reports concerning price levels, trends, and expectations. More information and understanding were also requested with respect to the futures market and its appropriate place in storage and/or hedging situations. Additional research is needed to provide growers with adequate information to enable them to design a unique marketing strategy to fit their individual farm operation.

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