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Lynn H. Lutgen

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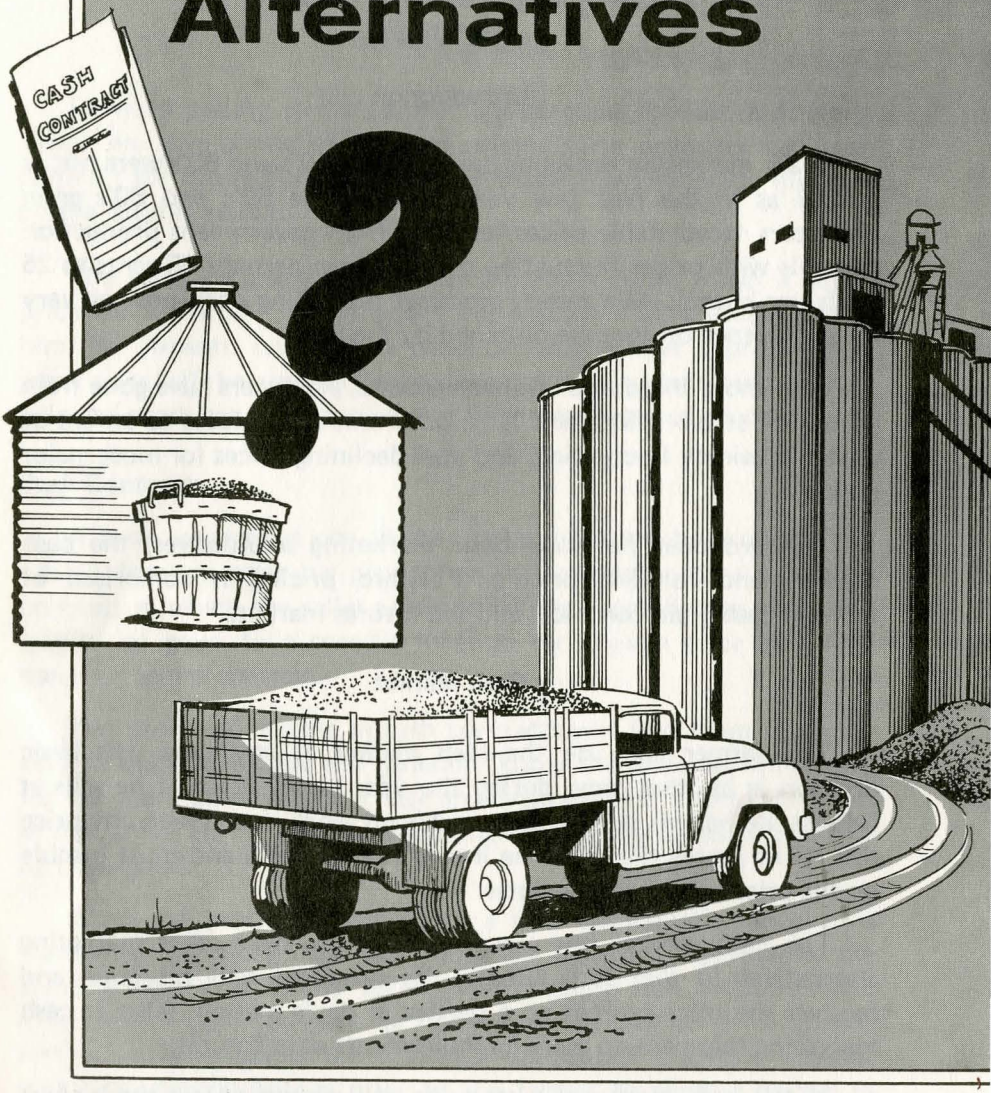
Grain Pricing Alternatives



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LEO E. LUCAS, DIRECTOR

GRAIN PRICING ALTERNATIVES

Lynn H. Lutgen, Extension Economist (Marketing)

Introduction

Grain marketing decisions during the 1950's and 60's were not as critical as in the past few years. During the 50's and 60's grain producers faced stable prices resulting from government production controls with prices fluctuating over the year perhaps 15 cents to 25 cents per bushel. As a result, producer marketing decisions had very little influence on revenue obtained by the firm.

With more international involvements, producers have gone from an era of stable prices and large government surpluses to an era of unstable, widely fluctuating, and now declining prices for most major grains.

The producer has two basic marketing alternatives, the cash market, and forward pricing. Forward pricing is comprised of forward cash grain contracts and the futures market.

Cash Market

The farmer can use the cash market at any time. His basic decision is at what time during the year to sell grain. If he sells at harvest, he has no storage costs and is no longer faced with any price risk. If he stores the grain, he incurs storage costs and must gamble on the price he will receive later.

The cash market has certain advantages over other marketing alternatives in that it is simple; the producer sells his grain and receives the price quoted on a particular day's market. Also, in cash marketing there are no margin requirements as in futures.

In the cash market the producer will seldom obtain the highest price of the year. If the grain is stored, the producer subjects himself to price risk, and storage costs. The cash market subjects the

producer to price risk which in turn can make future production planning difficult. By selling all grain on the cash market at harvest the producer foregoes any tax advantages that may be obtained from shifting income between years.

Forward Pricing

Forward pricing is the contracting of grain for future delivery. There are two kinds of forward pricing. The producer can cash contract for future delivery or he can hedge (forward price) his grain on the futures market.

The producer using forward pricing hopes either to get a higher price for his products and/or protect a price that is acceptable to him. By forward pricing the producer also knows approximately what price will be received. Knowledge of the approximate price can help the producer make proper and timely management decisions.

Cash Contracts

A cash contract is one of the marketing tools the producer can use to forward price his production. A cash contract is a binding contract in which the seller agrees to deliver a specified quantity and quality of grain to a specific location for a given price at a time specified in the contract.

The producer dealing in cash contracts will find them relatively easy to understand. He will generally know the price he will receive for his grain. Cash contracts have an advantage over futures contracts in that there are no margin requirements and smaller quantities may be negotiated.

When the producer enters into a cash contract he reduces his marketing flexibility. He must fulfill the contract regardless of the direction the market has taken. The producer will discover when negotiating a cash contract for future delivery that the price offered him is normally below the futures price quoted. The local elevator will discount the futures price to the farmer to allow a margin to cover expenses and to make a profit. After the producer signs a cash contract, the elevator normally will hedge grain (sell on the futures

market) or recontract the grain to protect the price and transfer the price risk.

There are basically three types of cash contracts used in Nebraska:

1. The fixed price agreement.
2. The deferred pricing agreement.
3. The pooled sales agreement.

Under a fixed price agreement the producer agrees to provide a specified quantity and quality of grain for a specific price. There are two forms of the fixed price agreement. In one the grain is paid for at the time of delivery. In the other the payment may be delayed until some later date such as after January 1.

The deferred pricing agreement is the same as the fixed price agreement except the final price is not part of the contract. The final price is established at the seller's option during any business day before a date specified in the agreement. The deferred pricing agreement permits the producer to deliver his grain and transfer title to the elevator at harvest, but delays the actual pricing of the grain until a later date chosen by the producer within a range specified in the contract. On the last date shown in the contract, if no decision has been made, the price received is that day's price.

The third type of cash contract is the pooled sales agreement. The pooled contract is used primarily by producer cooperatives. When the producer delivers his grain to the cooperative he receives a cash advance. As the grain is sold by the cooperative, the producer receives additional payments. The amount the producer receives is determined by the price the pool receives as the grain is sold. Under this form of pricing the producer receives an average pool (yearly) price for his grain.

When signing any agreement that transfers title of the grain, the producer should consider the buyer's liability position should an unforeseen catastrophe arise, such as bankruptcy, fire, etc.

Most cash contracts contain certain provisions of which the producer should be aware. Many contracts have a provision that allows the delivery date to be extended at the option of the buyer

(elevator). This provision could disadvantage the producer if he has only a small amount of farm storage. If the seller should fail to deliver the grain by the date specified in the contract the buyer has the option to:

1. Extend the delivery date.

2. Terminate the contract.

3. Purchase other grain to fill the contract with any additional costs being paid by the seller.

In most contracts the seller is financially responsible to the buyer if the seller should not deliver or under delivers the amount of grain specified in the contract.

In recent years, with boxcar shortages and shipping problems being experienced by elevators, a provision has been added to some contracts stating that if the buyer is having shipping problems the payment due the seller may be deferred.

When entering into a cash contract the producer, for his own protection, should proceed as follows:

1. Determine what his objectives are for using a forward cash contract. Some objectives that producers consider are to a) cover production costs and insure a profit, b) obtain the maximum price before prices decline, c) obtain a given rate of return on investment or d) minimize losses. Objectives will vary among producers as they consider their own individual situation.

2. Determine his production costs.

3. Determine what price he can live with before reaching the point where his preference would be to gamble on the cash market, given his objectives.

4. Shop around and determine what the market is offering.

Then, if the producer does decide to enter into a cash contract, he must be sure to follow through on the agreement.

When entering into a contract the choice of a contractor can be of upmost importance. The producer must first look at the price he will receive. He should consider the contractor's reputation. If, after

reading the contract, the producer is unsure as to the provisions he should seek outside advice from someone such as an attorney. The producer should maintain personal contact with the buyer. Before entering into a contract, the producer should know about the flexibility features of the contract in the event something unforeseen should happen which could prevent him from delivering or under delivering.

To avoid serious financial losses there are certain management practices the producer should follow. The producer may wish to determine his cost of production in order to know if the price offered will cover production costs. The producer must be sure not to overcontract for the contract states a specified quantity to be delivered. If something unforeseen should occur the producer should keep the buyer informed. The earlier the buyer realizes there is a problem the easier it will be for him to make adjustments. The producer should never default on a contract for this can damage his reputation and lead to possible legal action. Depending on the producer's financial position, he may wish to consider purchasing some form of all-risk crop insurance that would fulfill the contract if disaster should strike.

Futures Marketing

The futures market is a market where prices are established for commodities that will be delivered sometime in the future. The future can be anytime from a few days to more than a year. When entering into a futures contract, one contracts to deliver or accept delivery of a certain commodity during a specified month, for a given price. In the futures market very few contracts (2 to 3 percent) are ever fulfilled by actual delivery of the physical commodity. Hence, the futures market is often referred to as a paper market.

If the producer enters into a contract the physical route of a transaction might be as follows: The producer calls his broker and indicates he wishes to buy or sell a contract. The broker calls a commission firm which in turn passes the information to a floor trader. The trader buys or sells a contract and notifies the commission firm of the sale. The commission firm notifies the producer's broker who in turn notifies the producer that he has bought or sold a contract. After a contract has been completed the

clearing house is also notified of the sale. It is the clearing house that will call the broker to ask for additional margin money or will see that excess funds are transferred to the broker who in turn notifies the producer of his daily obligations.

In general terms the futures market can offer these advantages. When entering into the market the producer knows, given a small range, what price he will actually receive for his product. Because the futures is an open auction, the producer will receive a price established by competitive bidding. The futures market offers the maximum in flexibility once a contract is signed. If the producer should experience a crop failure or should other unforeseen circumstances arise, the producer simply calls his broker and purchases an offsetting contract. He has then relieved himself of any obligation to fulfill the original contract.

Futures trading is relatively complex and should not be entered into without a good understanding of how the futures market operates. The futures, unlike the cash contract, requires the producer to deposit margin money and to meet margin calls if necessary. Margin requirements are maintained in order that the producer will have a percentage (approximately 5) of equity in the contract. One of the most difficult disadvantages for the producer to overcome is the making of difficult decisions that may go against the producer's psychological make up. An example of this kind of decision might be: after a producer sells a contract the price of the commodity rises. Each day the price rises, the producer must deposit more margin money. The producer is paying money out of his pocket, which may seem like losing money but in reality the cash market is also moving up, increasing the value of his inventory and the producer is not losing money.

In the futures market one can either be a speculator or a hedger. The producer must understand the difference. Speculation is the buying and selling of contracts solely for the purpose of making a profit on the price movement of the commodity. The speculator has no inventory on hand nor does he ever expect to own the physical commodity. A speculator can be anyone who believes the market will move a certain way. The speculator is very important to the operation of the futures market. If a futures market is going to work it needs to have a high degree of liquidity or a large number of

contracts have to be traded. The speculator provides the liquidity.

Hedging is the taking of an equal and opposite position from the intended or present inventory of grains. The hedger is someone who has an inventory on hand or will at some point in time obtain the actual commodity. This circular is mainly concerned with the producer who wishes to use the futures as a marketing strategy or as a bona fide hedger.

The producer might consider hedging under the following circumstances:

1. The producer feels the market price is going to decline and hedges to establish a price higher than what the cash market price will be when the grain is sold.

2. The producer uses hedging to make profitable management decisions. The producer may not wish to start an enterprise unless he can insure a profit. If he can hedge in a fair profit he will start the enterprise.

Additional objectives for using the futures market would be the same as for using cash contracts.

The following example represents a commonly used approach to hedging. The example was chosen for its illustration of the mechanics involved in hedging on the futures market. There are many philosophies of "how to hedge" that this circular will not attempt to explain.

Example of a Perfect Hedge—A perfect hedge is one in which the actual "basis" is exactly what the producer estimated it would be when he placed the hedge. The "basis" is the difference between the futures price and the local cash price. For example, the producer checks the current (November) cash corn price and rejects it as being too low. He then finds that May corn futures are trading at $2.80 per bushel. He estimates (believes) the "basis" will be 30 cents in May when he sells his corn on the local cash market. He now localizes the futures price, by subtracting the estimated "basis" from the May futures price ($2.80 - .30 = $2.50). The producer decides that $2.50 per bushel is a price he is willing to accept. The producer sells a contract at $2.80 May delivery.

What happened in Example 1?

Example I. A perfect hedge.

	Cash Market	*Futures Market*	*"Basis"*
November		May	Estimated
	Cash position rejected by producer	Sells Futures $2.80	May "Basis" $.30
May		May Futures	Actual May
	Sell cash $3.00	Buy Futures $3.30	"Basis" $.30
		PRICE RECEIVED $2.50	

In this example the producer actually received $2.50 for his product. There are two ways the producer can calculate the price received. One way is to take the price received on the cash market (at the time of sale) and add this amount to the profit or loss from the futures transactions. In Example I, the producer received $3.00 on the cash market but lost 50 cents per bushel ($2.80 - $3.30 = $.50) on the futures transaction. The actual price received was $3.00 - $.50 = $2.50 for his grain.

A second way to determine the price received ($2.50) is to subtract the actual "basis" when the hedge is lifted from the amount per bushel when the hedge was placed. In Example I the producer sold May futures in November for $2.80 per bushel. When the hedge was lifted the "basis" was 30 cents. Therefore, take the futures selling price minus the "basis" and obtain the price received ($2.80 - $.30 = $2.50).

When the producer places a hedge (sells futures) he estimates what he believes the actual "basis" will be at the time he decides to sell his grain on the cash market and buys futures to offset his position in the futures market. Once a hedge is placed the "basis" becomes the key to a successful hedge. After the hedge is placed the only variable that will have any influence on the actual price received will be a change in the "basis." If the "basis" widens or is greater than the producer predicted he will receive less than was anticipated. If the "basis" narrows or is less than was originally estimated he will receive more for his grain than expected. Generally, the cash price

tends to be less than the futures price, but instances have arisen where the cash exceeds the futures. This becomes known as a negative "basis," giving the hedger an additional unexpected profit. The "basis" is so important to a successful hedge the producer must know how to determine it so that he can make the best estimate of what the "basis" will be in his local area at the time he expects to lift the hedge.

The "basis" is defined as the difference between the local spot cash price and the futures price at a certain point in time for a particular place. The "basis" that is important to the producer is his own particular "basis," as is determined by where he will market his cash grain. To localize the futures price by the "basis" the producer should calculate the "basis" in the following manner:

1. Determine what the futures price is on a specific date.

2. Determine what the local cash price is on the same date.

3. Subtract the local cash price from the futures price to deterine the "basis."

This procedure will give the producer a "basis" for a particular time and place. By knowing this a producer can estimate what price he will actually receive.

The problem arises in making a realistic estimate of what the "basis" will be when the hedge is lifted. The producer must make this estimate at the time the hedge is placed—which may be months before the grain is sold and the hedge lifted. How can the producer determine what a realistic estimate is? There are two ways:

1. Calculate all costs to deliver the grain to a place specified in the contract (par delivery point).

2. Analyze what has happened historically.

Of the two methods the second is more feasible. The producer needs to obtain past futures prices and past cash prices in his area and calculate the localized "basis." After a careful review of the historical "basis" the producer should be in a better position to estimate what the "basis" will be in the month he has chosen to sell his grain and lift the hedge.

In using the first method to estimate "basis," several difficulties arise, due to the complexity of the variables that must be considered. A partial listing is as follows:

1. Cost of shipping to a delivery point.
2. Interest.
3. What transportation services are available.
4. A good crop year versus a bad year.
5. The time of year as it affects the liquidation of grain stocks.

After reviewing the two alternatives the producer may find it easier and to his advantage to study a historical "basis" pattern for his local area.

Since the producer estimates what he feels the "basis" will be in the future, what affect will a larger or smaller realized "basis" have on the price received when the hedge is lifted. Example II shows the effect of the "basis" widened and Example III shows the effect of "basis" narrowing.

Widening of the "Basis"—In Example II the producer has again decided not to sell his grain in November and places a hedge of $2.80 in hopes of receiving a higher price the following May. In Example I the producer estimated the "basis" to be 30 cents in May and his estimate was correct. In this example the producer's estimate of 30 cents is too small and the "basis" realized in May is actually 40 cents and the price received is $2.40, 10 cents less than expected.

Example II. Widening of the "Basis."

	Cash Market	*Futures Market*	*"Basis"*
November		May Futures	Estimated
	Cash position rejected by producer	Sell Futures $2.80	May "Basis" $.30
May		May Futures	Actual May
	Sell cash $2.90	Buy Futures $3.30	"Basis" $.40
		PRICE RECEIVED $2.40	

The price received can be calculated in one of two ways: 1. Subtracting the actual "basis" from the sell hedge position, ($2.80 - $.40 = $2.40); 2. adding the cash price when selling the grain to the profit or loss from the futures transaction ($2.90 + [$2.80 - $3.30] = $2.40.)

In Example II, the result of a widening of the "basis" was not in favor of the producer.

Narrowing of the "Basis"—The producer does not wish to sell his grain in November and places a hedge for $2.80 by selling a futures contract. In May the producer sells his grain for $3.10 and buys a futures contract for $3.30. The "basis" at the closing of the transaction is 20 cents versus the predicted 30 cents. The actual price received is $2.60 or $2.80 - $.20 = $2.60. Under the circumstances the producer received an additional 10 cents per bushel. As was seen in the three examples the fluctuation and proper estimation of the "basis" can either cause the producer to obtain a higher or lower price than expected.

There are three basic things a producer needs to do to determine whether or not he should become a hedger. He must first determine what kind of price he is willing to accept for his product. He must then localize the futures price by taking the amount the futures is offering and subtracting the expected "basis" to determine what he expects the price received to be. After calculating the expected price received the decision of whether or not to hedge has to be made.

The producer is faced with basically two different hedging situations. He can either hedge his production while it is still in the field or he can place a hedge when the grain is stored. The first hedge is a production hedge. Under this hedging strategy the producer is establishing a price for a crop that is not planted or a crop that is still in the growing stage.

In using the production hedge the producer first estimates his anticipated production. He next calculates his production costs. Knowing production costs is a must. Without this knowledge the producer cannot make a fair judgment about his profit potential. His next moves determines what price he will accept for his product. He finds out what the futures is offering at harvest time. He localizes the futures price. He analyzes the results and then decides whether or

not to place a hedge and if so for how much of his expected production. A word of caution—don't over commit on expected production, because without obtaining the inventory one will become a speculator.

As an alternative the producer could consider a storage hedge after the grain is harvested. The objective of a storage hedge is to establish a price for the grain plus a return for its storage. The producer must first calculate all costs, including a return to management, for storage of the grain for that period of time. He adds these costs to an acceptable harvest time price to determine what price he will need on the futures market. He then finds out what the futures is offering, localizes the futures price for the month he expects to sell his grain and then makes the decision whether or not to hedge. The producer is in the unique position to employ both or a combination hedging situation.

The question the producer asks is, what are the advantages and disadvantages of hedging.

The advantages of hedging are:

1. Grain futures can be offset in case of a crop failure. If the producer should lose his crop and has sold a contract he can simply buy an offsetting contract. When this complete round-turn is accomplished the producer is free of any obligation in the futures market.

2. The forward pricing of grain through the use of futures is easier to adjust to changing conditions than is a cash grain contract. The producer can increase his hedge by simply selling another contract or can decrease his commitments by buying an offsetting contract. This type of situation may arise as the producer is better able to judge his production as it matures or is harvested.

3. Using the futures market increases the number of buyers in both the export and domestic market. People from all over the world trade in the futures market. Because of the larger amount of buyers and sellers the producer may be able to get a higher price for his grain.

4. The use of futures should increase the chances of receiving the best price on a given day because the price is determined by

contracts being traded to the highest auction bid.

5. Grain futures generally offer the producer a longer time period in which to choose a price. This is used by the producer looking ahead for several months and determining in which month he plans to market his grain, and determining what the futures is offering in that month. The producer would look at the futures price and then choose a month in which the "basis" at the time of placing the hedge is wide and he expects the "basis" to narrow in his favor.

The disadvantages of hedging:

When dealing in the futures market the producer cannot deal directly with the market but must go through a broker. The broker charges a brokerage fee which must be included in the calculation of costs. The brokerage fee is the amount charged for one complete turn around per contract. The fees charged at this writing are about 40 dollars for corn, 50 dollars for soybeans, and 45 dollars for wheat per contract. The producer should shop around for the right broker not only because the fee may be different but more importantly the producer needs a broker who is familiar with agriculture and its products. The broker needs to understand the producer's positions in dealing with the futures market.

Besides the brokerage fee, the futures market also requires margin money be put up as security by the hedger. The margin requirements are fairly stable but may fluctuate as the price of grain changes. The margin requirements for the major grains grown in Nebraska at this time are corn $500, soybeans $2000, and wheat $750.

Coupled with margin requirements are margin calls. A margin call is the amount of money either paid to or by the producer to maintain necessary margin requirement. Margin calls depend on which way the market is moving in relation to the producer's hedged position. A producer may hedge by selling a contract of 5,000 bushels. To offset this position and get out of the futures market he must buy an offsetting futures contract. For example, if the producer has hedged corn, he has deposited the $500 margin requirement. The day after he entered the hedge the price of corn increases $.05 per bushel. This means to the producer that if he bought an offsetting contract it would cost him 5 cents more per

bushel than he paid the day before. Since the contract is for 5,000 bushels, he has lost $250 on the futures transaction. When subtracting the $250 loss from his original $500 he has an equity of only $250 in that contract. The producer has to send $250 to his broker to bring his margin money up to the $500 level as required. If he fails to do so the broker will sell him out and the producer loses not only $250, but also his price risk insurance. Had the market gone down the producer would have had an equity position of $750 ($500 + $250 = $750) and the excess over $500 would be credited to him. Because of margin requirements the producer needs a financial officer who understands hedging and will help meet margin calls if necessary.

The futures contract is binding. If the producer sells a contract he has promised to deliver a specified quantity and quality of grain to a specified location. Size of the grain contracts can also be a problem. Futures grain contracts deal in large discrete units of approximately 5,000 bushels. Another problem faced by the producer is that not all grains are traded on the futures market.

To effectively use the futures market the producer needs to know his production costs, to know and understand "basis," and above all, to have a good understanding of the futures. The producer needs to be aware that the speculator may at different times cause an unexpected adverse reaction in the "basis." Should the producer have to deliver in fulfillment of a contract he will find that making delivery is not only very costly but also very difficult. Delivery problems will depend on the producer's location to an acceptable delivery point.

When faced with these kinds of disadvantages how then can the futures help the grain producer? The futures market can help the producer to:

1. Establish acceptable prices.
2. Avoid large price drops.
3. Make production decisions.
4. Decide when to expand.
5. Get credit easier.
6. Evalute other marketing alternatives.

There are certain management practices that should be followed when hedging.

1. Don't lock in a loss.

2. Don't hedge all of the anticipated production.

3. Calculate the "basis" properly.

4. Be prepared to meet margin calls.

5. Keep storage hedges approximately equal to the grain on hand.

6. Be sure and buy back the futures on the same day the grain is sold.

Summary

The producer can price his grain in Nebraska by three methods:

1. Sell on the cash market.

2. Use cash grain contracts.

3. Use the futures market.

All have advantages and disadvantages. The producer needs to determine which method is best for his own individual situation. He may quickly determine that for a particular instance he would use more than one method. The producer should maintain flexibility in his marketing decisions to adjust to changing times.

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