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## Risk Management and Marketing

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## RISK MANAGEMENT AND MARKETING

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### INTRODUCTION

Producers of all agricultural commodities assume many types of risk, including everything from weather risk to disease risk to price risk. The cattle producer is no exception. In fact, the cattle producer often faces all of the above risks to a greater degree than do the producers of other agricultural commodities.

In many cases, there are no means to totally shift the risk to someone else. In fact, that probably would not be desirable since it is the assumption of risk which can lead to profits (or losses). Rather, producers must learn to manage their risk so that it becomes a servant rather than their ruler.

The primary purpose of this newsletter issue is to outline some of the means which producers can use to manage only one form of risk--price risk. Cattle producers have four basic methods which they can use to manage price risk--the cash market, contracting for future delivery, the futures market and the options market. The pricing alternatives are discussed individually and then comparisons are made.

### CASH MARKET

Most producers are familiar with the cash market. That is the method they use most often. Essentially, a price is not determined for the producer's cattle until they "go to market". Most producers do "expect" certain price levels to be prevalent when they market their cattle, but when the cash method is used there are no guarantees. The producer is a price taker. The only decisions are when to market and which market outlet to use.

The cash market is used most by cattle producers because they are familiar with it. For many feeder cattle producers, the cash market is the only viable alternative they have to price their product. The cash market is easier to use and requires fewer decisions. It is, however, the method under which the producer maintains the greatest degree of price risk. In fact, the risk is not really managed--it just is included as part of the situation or it is assumed that "there isn't anything that can be done about it".

Three major factors must be remembered when using the cash method of marketing. First, because the maximum level of price risk is maintained by the producer, this method provides the maximum potential for profits and losses. Since either profits or losses can occur, the producer must be willing and able to accept either situation. Second, all planning is based upon price expectations or forecasts. Those forecasts can either be someone else's forecast or the producer's forecast. Many people have a tendency to be too optimistic in forecasting, meaning net profits often are smaller or net losses are larger than expected. Third, if lenders view the cash method of marketing as "too risky", they may refuse to lend money, they may lend less money or they may charge a higher rate of interest for the money they do lend.

### CONTRACTING FOR FUTURE DELIVERY

Of the four methods noted, this pricing technique is second to the cash method in frequency of use by cattle producers. However, it is a very distant second. Essentially, this pricing technique involves the use of a written contract between the seller (producer) and the buyer. Sometimes this is called a forward contract or a cash forward contract. The contract involves not only price but a system whereby premiums can be added or discounts can be deducted from the initial price. Quality factors, quantity factors and any other considerations deemed important should be part of the written contract. In

this method of pricing, the actual price or the method to be used to determine the actual price is determined when the contract is made. Actual delivery of the cattle of the quality and quantity described in the contract occurs at a later date, also specified in the contract.

Many contract prices used in this pricing method are based upon the futures market. For example, if a producer decided in the spring that he wanted to make a contract to deliver feeder cattle in November, the contract price likely would be the November futures price for feeder cattle plus or minus a set amount, such as \$3.00 or \$4.00 per hundredweight. The details leading to a premium above that price, or a discount from it, would be outlined in the contract. It is likely that a premium would be added if the average weight of the cattle sold is considerably less than 650 pounds. A discount could be made if the average weight was at or above 650 pounds. A similar procedure could be used for fed cattle using the live cattle futures market.

Since the forward contract price usually is based upon the futures market, changes there affect most forward contracts. Beginning in September, 1986, all settlements of feeder cattle futures contracts still open at maturity are to be made by cash settlement. Delivery of the feeder animal to fulfill the contract is not possible. The criteria (quality factors) used to arrive at the settlement price are based upon slightly heavier and slightly lower quality animals than were used to determine the futures market price. The net impact to the producer using the cash forward contract for feeder cattle is in the areas of basis. The preceding paragraph suggested that a \$3 or \$4 per hundredweight deduction from the futures market price be taken to arrive at a cash forward contract price. Now, no deduction should be made if the producer's cattle weigh approximately 650 to 700 pounds and meet the other specifications of the futures contract. Of course, deductions still are necessary if the producer's cattle are much below the quality of the animals described in the corresponding feeder cattle contract.

This method is fairly easy to use and has gained some acceptance among producers. Price risk is shifted from the producer to the buyer. Therefore,

most of the price risk is managed and the element of risk reduced. However, the producer must accept the price as agreed upon. The opportunity is gone to accept a higher price than the agreed upon price if actual cash prices are higher at the time the cattle are delivered. Any exceptions likely will be relatively costly.

This method of pricing generally yields a lower net price to the producer than do the other forward pricing methods. However, there are no margin calls and a broker is not needed. The main participants in the contract are the buyer and seller.

#### FUTURES MARKET

Most producers have heard about the futures market, very few use it, and many would like to see it eliminated. This pricing method is more complicated than the first two methods discussed. Essentially, it involves the pricing of a commodity now with actual delivery of the product at a later date. That procedure is called hedging. The main difference from a forward contract is in the delivery process. In a forward contract, delivery of the product is expected. In a futures contract, delivery is possible (except for feeder cattle) but not expected. Prior to the delivery date, the seller buys back his contract, thereby relieving him of the responsibility to deliver. That repurchase generally occurs close to the time the cattle are sold on the cash market. However, the repurchase can be made at any time prior to the expiration of the contract.

Producers do not make extensive use of the futures market for several reasons--they don't understand it, they don't trust it, or it doesn't fit their situation. Most of the price risk is shifted to someone else, usually a speculator. The producer does maintain basis risk. Generally, that risk is much lower than price risk. Also, the producer cannot take advantage of higher prices, should they occur. Therefore, this tool offers price protection if prices drop but not the ability to benefit if prices go higher.

The net price to the producer generally is higher than the forward contract price. The initial margin money can be viewed as "good faith" money. Additional money may be required

if futures prices move higher after a contract has been sold. Also, a broker must be used and that involves a commission charge.

Three major considerations must be remembered by producers when they use the futures market. First, there is the rule of opposite transactions. When buying (or producing) the physical or cash commodity, the producer sells a futures contract. When selling the physical commodity, the producer buys back the contract. Second, the volume of product hedged must be equal to or less than the actual, physical volume on hand or in the production process. Otherwise, transactions in the futures market involve speculating. Third, it is essential that the user understand the role of margin money (and the need for an unlimited margin account) and the impacts of basis and contract specification, especially as they relate to actual production qualities.

### OPTIONS

This pricing alternative is the newest and probably least used of those available to cattle producers. In fact, an options program is not available for feeder cattle, but for only fed cattle (called live cattle). There may be an options program for feeder cattle late in 1986, but that is not certain.

The live cattle options program was initiated in mid-1985 and has met with limited success. This alternative has been compared to an insurance policy--you pay a charge (premium) for price protection and use that protection only if circumstances warrant using it.

The concept of options may seem confusing to those who have not used it. A producer who wants to use the options for cattle can use either of two basic strategies: (a) buy a put option or (b) sell a call option. Each strategy is discussed briefly.

Buying a put option -- In this strategy (buying a put), the buyer (or producer) really is paying a premium for the right (not obligation) to sell a live cattle futures contract. Since it is not an obligation, there are no margin calls. The only costs involved are the initial premium and a broker's commission (generally in the \$50 to \$100 range per contract).

In this alternative, the buyer has unlimited upside price potential and also sets a floor price for his cattle. The procedure used to compute the minimum expected net price is as follows:

Strike Price - Premium - Basis = Minimum expected Net Price.

This means that basis, the same basis used in the futures market, is critical in arriving at a final expected price.

Selling a Call Option--Another option for the producer is to sell a cattle call option for April. The use of this alternative is limited to special circumstances; it should be used only by those who fully understand the possible impacts. In fact, the use of a call alone (not in conjunction with a put) may add risk to the producer's situation.

The seller of any option (put or call) does not pay a premium. Rather, the seller gathers in the premium. However, the seller may have to pay margin money if the "market moves against him". The seller has limited upside price potential and has unlimited risk. The seller does, however, generate additional income from the premium received. If nothing happens to futures prices, the seller pockets the premium.

A quick comparison of the two strategies points out the following.

(1) If prices move sharply higher or lower than the original strike price, buying a put will result in a higher net price. This method does shift price risk to someone else, usually a speculator.

(2) If prices don't deviate significantly from the strike price, selling a call option will result in a higher net price. Note that price risk still is maintained by the producer. If prices go down, selling a call will not give any protection.

### WHICH ALTERNATIVE IS BEST?

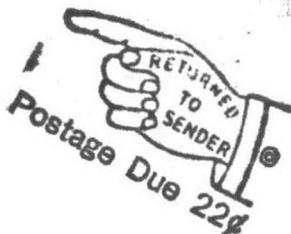
No one strategy always will result in the highest net price. In fact, the knowledge of which strategy is best is known only after the fact. That, however, does not mean that producers merely must take their chances and hope they pick the best strategy. A great

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deal depends on the producer's goals and objectives.

For producers who are risk seekers and have no real problem maintaining all of their own price risk, the cash market likely will suit them best. As noted earlier, it is the easiest to use and requires little or no knowledge of the other alternatives which could be used.

The other alternatives--forward contracting, futures market and options--all provide a floor to prices. However, both the forward pricing techniques and the futures market also provide a ceiling. Only the options market (buying a put) also provides upward price potentials.

In general, when the futures price is significantly higher than the original strike price at expiration of the option, having bought a put would have resulted in the highest net price. When the futures price is approximately equal to the original strike price at expiration of the option, having sold a call would have resulted in the highest net price. Again, remember that selling a call is not recommended as a pricing tool for products to be sold unless the user fully understands what is involved. When the futures price is significantly lower than the original strike price at expiration of the option, selling a futures contract would have resulted in the highest net price.

### CONCLUSION

Some risk can be transferred to someone else, some may have to be re-

tained by the producer. Price risk is one type of risk which can be shifted to someone else.

The cash market method of pricing keeps the risk in the hands of the producer. Often, that means that risk is not managed, just accepted as part of doing business. The forward pricing techniques--cash forward pricing, futures market and options--offer some opportunity to manage price risk by shifting some of that risk to someone else.

Two final words of caution. First, merely shifting price risk to someone else doesn't necessarily mean either more profits or even prudent management of that risk. Each producer must evaluate his or her own situation and decide how much price risk they can afford and want to keep and how much they want to "get rid of". Then, they must decide how best to do that given their own situation, including their ability to use the techniques available. Remember, incorrect use actually could increase price risk. The key is to "manage the risk" you keep and shift the rest, not necessarily to either keep it all or shift it all to someone else.

Second, all marketing techniques require time to be used correctly. The use of the forward pricing techniques require more information, not less. Time is required both to learn the procedures and to learn what they can and cannot do.

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