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Cattle Marketing in South Carolina

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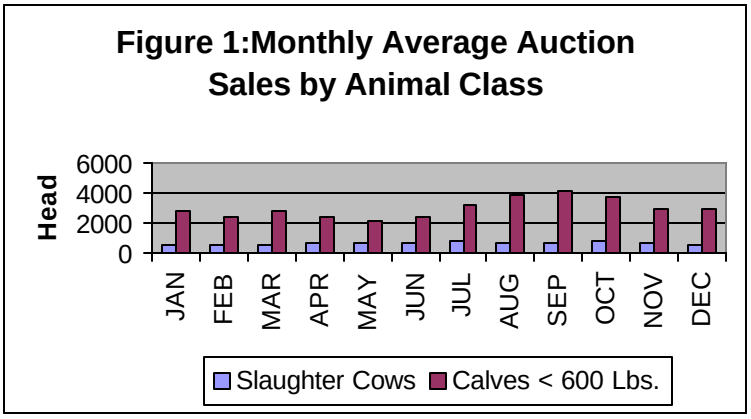
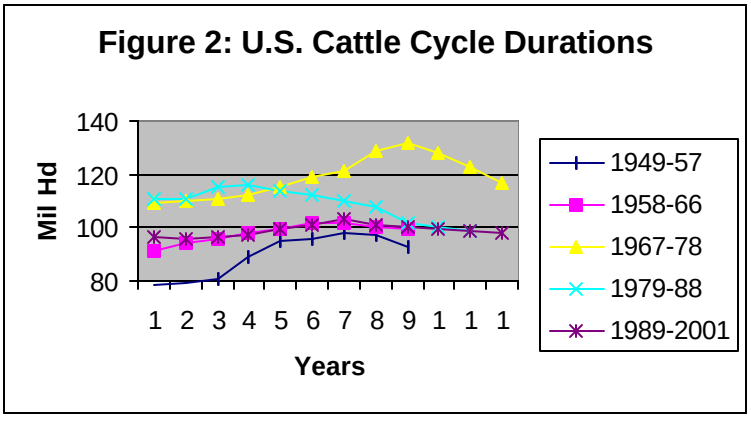
Most beef cattle operations in South Carolina are cow-calf enterprises. These operations are located primarily in the piedmont region and average less than 50 head of brood cows per farm. Cow-calf enterprises have been an integral part of the state's agriculture for many years. Mild winters and long forage growing seasons provide South Carolina with a tremendous natural advantage in the production of beef for U.S. markets.

Cattle Markets

More than 80percent of the calves produced in the state are sold in the fall (Figure 1). The majority of the calves are marketed at 300-400 pounds and sold through local cattle auctions. Very little cash or futures contracting occur. These calves are generally shipped out-of-state with only a limited number remaining instate and over wintered on a stockering program. Fall-weaned calves are generally placed on midwestern wheat pasture, other pastures in other southern states or into a feedlot. Spring-weaned calves are again shipped south or north to mid-Atlantic and midwestern summer pastures. The ultimate destination of calves produced in South Carolina is a midwestern feedlot.

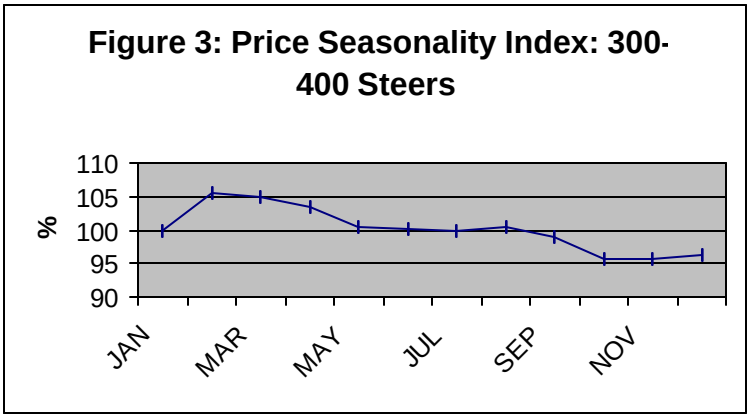


Prices received for South Carolina calves are determined by the interaction of supply and demand in the marketplace. Over time, calf prices rise and fall with the supply of cattle available in the U.S. marketplace. This phenomenon is commonly referred to as the "cattle cycle." Larger cattle supplies lower prices and smaller cattle supplies increase prices. This cattle cycle occurs about every 10 years and can have a significant effect on prices cattle producers received (Figure 2).



There is also a significant seasonal pattern that affects calf prices. The number of calves available for sale at any point usually determines this price pattern in time during the year. Figure 3 shows the average

seasonal price pattern for 300-400 pound steer calves in South Carolina. This seasonal price index suggests that on average during the winter months of January, February, March and April the price of this weight calf is above the yearly average (the yearly average is equal to 100 index points). The summer months, May through August, run close to the average with a slight improvement in August. From September though December the price is below the yearly average. This "seasonal effect" is apparent, although somewhat different, in all calf weight and sex classes.



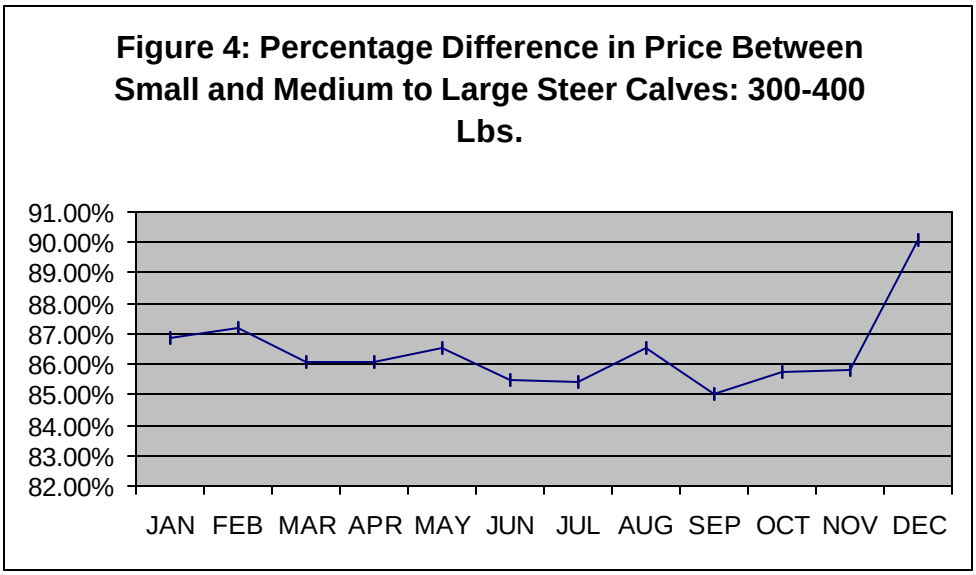
The Product We Produce

South Carolina cattlemen don't just produce a calf, sell it at weaning time, and forget about it. The animal we produce is the beginning point of a much larger process—the production of beef for the consumer's table. What the South Carolina cattleman raises must reflect what the consumer, packer and feedlot want. If the producer does not meet these needs the market will discount his cattle. Today, the market wants a healthy, uniform, well-muscled animal. These animal characteristics are liked, not only because they meet the needs of the consumer, but they also allow the feedlot and packer to make a profit. It is the cow-calf producer's task to produce cattle that meet these needs.

It is readily apparent that there are many combinations of calf breeds available to cattle producers that can meet these needs. Just about any combination will work, but each breed has its good points and its weaknesses. Some breeds grow faster producing a lean efficient animal, but their growing ability may produce a carcass that is too large. Some breeds produce a carcass that is known for its high quality, but the animal may be too small or grow too slowly. A few breeds are known for specific traits (calving ease, heat tolerance, milking ability) that set them apart and adapt them to particular conditions or environments. It is the job of the cattle producer to blend these traits into an animal that stresses the good qualities and minimizes the weaknesses.

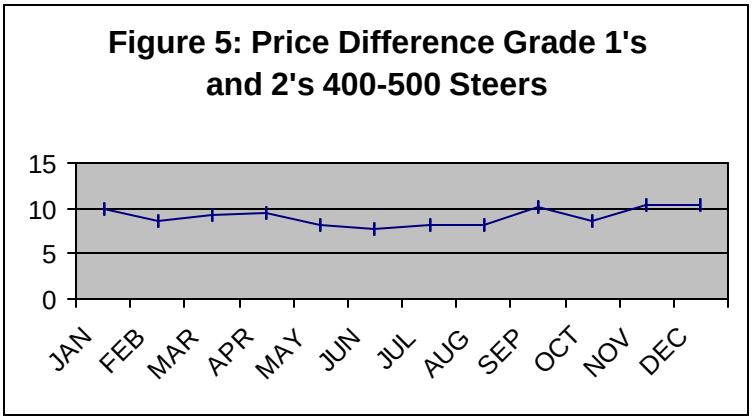
Given that cattle producers must strive to produce animals that meet the demands of the market place it is also true that the prices cattle producers receive for their animals seldom reflect premiums for producing these superior genetics. But cattle are severely discounted for not meeting minimum standards that the market determines to be acceptable. Two of these measurable standards are frame size and calf grade.

Frame size is a measure of the animal's size with respect to its age. Frame measurement helps indicate the animal's carcass size at time of slaughter and its feeding efficiency. Medium to moderately large framed calves are the norm. Very large and very small-framed calves are frequently discounted. Very large-framed calves take longer to reach an acceptable carcass quality level and can produce a carcass larger than the market can handle. Smaller-framed calves will weigh less at slaughter, but it takes about the same amount of time and money to grow this size of carcass as it does larger the larger carcass. (Figure 4 shows that the average monthly discount between small-framed compared to medium-framed feeder calves is about $14 per cwt.). Frame can also denote breed type, the environment in which the calf grew up, and its ability to gain weight efficiently.



The USDA feeder calf grades denote potential carcass quality (marbling) and weight (yield) of the calf at slaughter. A No.1 designation suggests an animal with more muscling than a No.2 grade, and a No.2 grade has more muscling than a No.3 or No.4 grade calf. The grading system is an attempt to project what the animal's carcass will "grade" (choice, select, etc.) after it has been fed to a weight near 1300 pounds and slaughtered.

Grades, other than No.1, are heavily discounted in the marketplace. Discounts between $7 and $13 per cwt. are common between No.1 and No.2 grades throughout the year. Grades are also used to identify breeds and breed crosses. No.1 graded calves are generally English (Angus, Hereford) or English-Continental (Simmental, Charolais, Limmosime) crosses. Generally, similar bred animals but with lighter natural muscling are classed No.2. Dairy and dairy cross calves are graded No.3. Calves graded No.4 frequently have a very heavy influence of Brahman blood (Figure 5).



Cost of Production

Budgeting is the foundation of a good management program and the starting point of a good marketing effort. The budgeting process involves estimating the income and expenses associated with the cattle operation. Once these estimates are made, production and marketing alternatives can be evaluated in light of the goals and objectives of the individual cattle producer.

The easiest way to estimate these costs is to use income tax Form 1040 Schedule F. This tax form provides just about all the information needed to develop a usable estimate of the annual costs of production and it is readily available to cattle producers. The only additional information possibly required (that is not listed on Schedule F) is the amount of principal paid on outstanding loans.

Table 1. divides the expenses associated with the production of cattle into categories that are easily related to the organization of a cattle operation and are readily found in IRS Form 1040 Schedule F. Costs are classified by Schedule F categories and are further classified by the economic categories of variable and fixed costs.

TABLE 1: ESTIMATED COSTS FOR A PIEDMONT COW-CALF OPERATION

BUDGET CLASSES		DOLLARS	
	HERD		
VARIABLE COSTS	(30 COWS)	PER HEAD	
Seed, Lime, Chem., Fertilizer		$3,561.15	$118.70
Mach. Repair & Maintenance		$137.40	$4.58
Hay		$434.72	$14.49
Feed Purchase		$975.00	$32.50
Vet & Medication		$300.00	$10.00
Miscellaneous		$0.00	$0.00
Operating Interest		$250.12	$8.34
Labor		$0.00	$0.00
Marketing Charges		$420.05	$14.00
TOTAL VARIABLE COSTS		$6,078.44	$202.61
FIXED COSTS			
Depreciation		$1,590.10	$53.00
Interest		$1,635.50	$54.52
Insurance		$0.00	$0.00
TOTAL FIXED COSTS		$3,225.60	$107.52
TOTAL COSTS		$9,304.04	$310.13

Variable expenses are the out-of-pocket costs of running a cattle operation. If you did not raise cattle, you would likely not have these expenses. These include charges for fertilizer and lime, supplemental hay and feed, veterinary, fence maintenance, labor, etc., associated with the production of the calf and maintenance of the cow for a year. Marketing costs are also included as a variable cost.

In our example, we estimate that a 30-cow herd in the piedmont of South Carolina would incur out-of-pocket or variable costs of $9,304, or $310 per head. Most of this expense comes from the production of hay and purchase of supplemental feeds ($170.27). This accounts for approximately 84 percent of the total variable costs of production.

Fixed costs are the expenses that are not directly applicable to each animal but are incurred by the business whether any animals are produced or not. Examples of fixed costs are: depreciation of equipment, facilities and animals, taxes and insurance. Frequently included as a fixed cost are tools, utilities, tax preparation, and advertising. Fixed costs are not always considered important in the near term, i.e., you don't always have an annual out-of-pocket payment to depreciation. However, they are very important in determining the "staying power" of the operation. Unless some attention is made to replace worn-out equipment, it is likely that the cattle operation will fail in the future.

In this example, the estimates indicate a total fixed cost of $3,225.60 or $107.52 per head. Total costs are estimated at $9304.04 or $310.13 per head. Fixed costs comprise 35 percent of the total cost of production. It is important to consider these fixed costs. Cattlemen all too frequently only consider out-of-pocket expenses and forget that there are other expenses necessary to produce beef cattle.

Most cattle producers use an out-of-pocket estimate of production expenses to guide their management and marketing decisions. This estimate includes the operation, marketing, taxes, insurance, and any debt payment expenses associated with producing an animal. In general, this is a good estimator of the cost of production, reflecting annual cash needs and debt, frequently the most expensive part of the cattle business.

If cattlemen calculate all of the costs in these categories, they will have a good understanding of their total production expenses each year. These costs reflect what must be paid to keep the business running today (variable costs) and tomorrow (fixed costs).

One point often overlook by cattlemen is that an estimate of the cost of production is the starting point for the marketing program. You cannot determine if the price offered in the market place is acceptable without knowing the level of expenses you have in the calf.

In our example, the total variable costs are $202.60 per head. If are typically sale weight (average of steers and heifers) is 515 pounds per calf then our break-even price above variable costs is $39.34 per cwt. The break-even price to cover total costs is $60.22 per cwt. These break-even prices are what we need to know "before" we sell our cattle. The break-even price helps us select market alternatives and define our marketing strategies.

Market Alternatives

There are an expanded number of marketing alternatives available to today's cattle producer. Each market alternative has its unique features. The basic features that describe cattle markets include competitive bid pricing, market knowledge, convenience and simplicity of the sale, market cost, market planning and market price protection. Cattle producers usually choose markets suitable to their management objectives. These marketing alternatives provide them the opportunity to obtain a fair and reasonable price for their cattle.

There are two major classes of markets in the cattle business: markets that afford the producer price protection and markets that do not. Markets that do not provide price protection are usually cash markets. In this market the seller must be willing to accept "the going price" when he is ready to sell. On the other hand, markets with price protection allow the seller to manage price risk and "choose to accept a price" that will meet a given price objective.

Markets Without Price Protection

These markets include private treaty sales (to other farmers, cattle producers, or order buyers), local auction barns, telephone and video auctions and satellite video auctions. Selling in the cash market is usually easy since it requires less planning and market knowledge.

Private Treaty. Private treaty sales primarily include sales between producers or between producer and an order buyer. This sale represents a private negotiation between the buyer and seller. The use of private treaty sales has been a common practice for many years. The cost of this type of sale is minimal and the seller controls the marketing process. However, this marketing method requires the seller to know and understand current market prices and practices. The seller also accepts the risks associated with cash payment.

Local Auction Sales: The local auction sale is often the simplest and most convenient cattle cash market. This market usually attracts a reasonable number of buyers, which allows the seller to receive a competitive price for his cattle. The local auction also permits the seller to bring to market a wide range of cattle

varying in size, age and quality. Reliable, prompt cash payment is available through this marketing alternative. The cost of this service is usually reasonable. Cattle are sold on a per head commission plus additional fees for yardage, insurance and other services.

Telephone, Video and Satellite Auctions: Telephone and pre-recorded video auctions and satellite video auctions require more planning and market knowledge than does the local auction. A major advantage of this market alternative is that it increases the potential number of buyers. These sales often bring higher prices for quality cattle. However, the seller must offer truckload lots (60 to 70 head) of uniform good quality calves to ensure competitive bidding.

Telephone and pre-recorded video auctions have been successful in many locations where groups of producers have formed cattle marketing associations. These associations assure that an adequate number of cattle will be available for sale and a greater number of cattle will always attract more buyers. This assures the chances of competitive bidding. These sales often involve direct communication between the buyer and seller before the announced sale date.

Satellite video auctions offer advantages to both buyer and seller. The buyer is able to purchase truckload quantities of reasonably uniform and healthy cattle right off the farm. The buyer benefits from receiving healthy and less stressed cattle. The seller sells more pounds of beef compared to the auction market. The seller can also eliminate transportation costs and reduce the total costs of marketing his cattle. Telephone and video auctions frequently bring higher prices than other cash market alternatives.

Producers should be aware that private treaty sales, telephone and video auctions and satellite video auctions frequently use a sliding price scale base upon the animal's weight. The purpose of the slide adjustment is to allow for animals weighing over or under the agreed upon sale weight. Producers should be able to closely approximate the average sale weight and should also be aware of the appropriate range of price slide.

For example, a $3 hundredweight price slide would result in reducing (or increasing) the market price by $1 for every 33.33 pounds below (or above) an agreed upon sale weight. Therefore, the seller should be sure that the estimated weight is reasonably accurate and the magnitude of the price slide compares well with price adjustments seen in local cash markets (local auctions or USDA reported state or regional sales).

Retained Ownership: Retained ownership is defined as a producer maintaining ownership of his calves through the feedlot segment of the marketing channel. With this method of marketing, a breeder can take advantage of his animal's genetics through the feedlot and packer segments of the market. This method of marketing allow the cow-calf producer to capture the greatest dollar return by keeping the value added to his calves at each successive stage in the marketing channel.

Retained ownership has not been a widespread marketing practice during periods of high calf prices. It has manly used by cattle producers as a defensive marketing strategy during times of depressed cattle prices.

Markets With Price Protection

Cattle markets with price protection were developed in response to the mutual need of sellers and buyers to avoid widely fluctuating prices. Using markets with price protection allow the producer to shift some of the market price risk to others. Forward pricing market alternatives, such as forward contracting, futures hedging and futures options, are typical markets, which provide price protection. These marketing alternatives require more intensive planning and market knowledge than cash marketing alternatives.

Forward Contracting: Forward contracting is simply a contractual arrangement between a cattle buyer and seller to exchange cattle for a prearranged price at some future date. Forward contracts, if they do not contain rigorous constraints, can be attractive because of the ease and convenience of developing and fulfilling the contract. To use this marketing alternative, the producer needs to know costs of production, current weight, gain potential and his profit objective. A major disadvantage of a forward contract is the risk of default.

Futures Market Hedging: Hedging is a marketing alternative that involves the use of the Chicago Mercantile Exchange's feeder cattle futures contract. This contract consists of a 50,000-pound lot of 700-849-pound, medium and large frame # 1 feeder steers. Trading contract months are January, March, April, May, August, September, October and November.

Trading in the feeder cattle futures market is neither simple nor magic. Contracts are bought and sold in the futures market by hedgers (producers) and speculators. A hedge is the way the producer passes price risk to a speculator. A hedger manages price risk by taking the opposite position in the futures market than is held in the cash market. Speculators take the opposite position to the producer's hedge in the futures market. The speculator assumes the price risk and he will profit if the producer is wrong.

The bids and counter-bids offered by the hedgers and speculators result in an estimate of the value of the feeder cattle futures contract at some future date. The bid is based on currently available supply and demand information for the feeder cattle. This estimate of value can and does change over the life of the contract. Changes occur as new information about adjustments in the fed-cattle market, feed prices, substitute meat prices, weather, trade polices, etc., becomes available and traders' expectations change. After receiving new information, traders evaluate price opportunities or reevaluate their positions in the futures market. Some will buy and others will sell, depending on their respective pricing opportunities, profit objectives and outlook.

When you buy or sell feeder cattle futures contracts, you are required to deposit funds in a "margin account" with your broker. The deposit represents a small percentage of the value of each contract. Additional margin deposits may be necessary if the futures price moves against your position in the market; that is, if you are going short and the futures price increases or if you are going long and the futures price decreases. The amount of the "margin call" requirement will be mostly offset by the adjustment in the cash market. This margin requirement ensures financial integrity to the futures market. Bankers who understand the futures market will work with producers to set up a margin account to meet any margin calls.

The producer's objective of using a futures contract is to minimize price risk. By hedging the producer treads a potentially large fluctuation in market price for a smaller and more predictable risk in what is called the "BASIS". The basis is the difference between the local cash market price and the futures market price. The basis is affected by many factors, such as transportation and marketing costs, seasonal demand and the supply pattern of the local market. The basis is more predictable than feeder cattle cash prices. Historical price information can be developed for your location and type of cattle (grade, sex, weight, etc.) to estimate an appropriate basis for your market situation for a given month.

Knowledge of the local basis is necessary to determine whether the futures market price will result in an acceptable target market price. For example, it is October and you plan to sell feeder cattle in May. The May feeder cattle futures contract is trading at $87 per cwt. The basis (local cash price minus the May futures price) is historically $3 per cwt under the May futures price. Adjusting the futures market price of $87 per cwt. by the basis value of $3 per cwt. results in a net price of $84 per cwt. The producer may choose to accept this price if it covers production expenses and means a reasonable profit.

What will the basis be at the delivery date for this May contract? No one knows with certainty. A review of historical basis information for a given month and local market areas will give a reasonable estimate. In essence, the hedger accepts basis risk rather than market price risk, because basis risk is generally smaller.

An Hedging Example for 500-Pound Calves: In May, a cow-calf producer has 200 weaned calves for sale in October. Feeder cattle futures contracts are bought and sold on the Chicago Mercantile Exchange in 50,000-pound units, so the producer estimates he may use at most two contracts (100,000 pounds). Purchasing more than two contracts would result in speculation on those contracts above his anticipated production.

The producer has estimated that he needs a target futures market price (sometimes called a price objective) of $95 per cwt. to cover production expenses, basis and to earn a reasonable profit. He contacts a local broker, who receives a commission for each transaction, and discusses market conditions and alternatives. Current October feeder cattle future contracts are at $83 per cwt. The producer waits for the contract prices to rise to $85 per cwt. When contract prices reach $85 the producer sells two feeder cattle contracts with delivery set in October. In the market, selling contracts is called "going short"; buying contracts is called "going long". The local basis in October for 500-pound steers is $10 per cwt. over the October contract. In this example, the producer estimated he needed $95 per cwt. to cover total production costs and a reasonable profit. He would be able to reach his price objective of $95 per cwt.

It is important to recognize that during some years the futures market may not offer the producer a futures price that meets or exceeds his target price objective. The producer may want to consider accepting a futures price that is less than the target market price if he expects the futures price to continue to decline. Let us assume it is now October, and October feeder-cattle futures prices have dropped $5 per cwt. to $80 per cwt. The cash market price is $90 per cwt. (still $10 premium to the feeder cattle futures for the 500-pound weight class of steers). The producer buys two October futures contracts at $80 to cancel the short positions he took last May. As a result, he made $5 per cwt. ($85 - $80) in the futures market because he sold October futures contracts at $85 last May. This sale results in a realized price of $95 per cwt. ($90 per cwt. in the cash market + $5 per cwt. in the futures market). This price meets his price objective and allows him to cover his production costs and a reasonable profit.

To achieve the price protection provided by hedging in the futures market, a cow-calf producer simply takes the position in the futures market opposite to the one held in the cash market. In other words, a producer wanting to establish a price on a group of weaned calves may choose to sell a futures contract (go short). The producer trades the futures contract that will mature closest to, but not before, the anticipated cash market sale date. So, if prices decline, the producer will make money in the futures market that will counteract the loss in the cash market. However, if the price goes up, the producer will lose money in the futures market but will make money in the cash market.

It is important to remember that hedging is a marketing strategy to be used to reduce market price risk. By hedging, the producer tries to fix a price and ensure price stability. ***If the market price goes up, the hedged producer gives up windfall profits for price stability.***

The concept of hedging is simple. But gathering the necessary production costs and market price information is time consuming. Furthermore, knowing when to place the hedge in order not to lose the opportunity for the best price in the market is a difficult decision to make. Producers who want to reduce market price risk should strive to attain a futures price (also called a target market price or price objective) that covers the costs of production and includes a reasonable return on his investment. Those producers using the futures market for the first time should study the market and seek professional assistance. This will help improve their chances of a successful trade.

Futures Market Options: Another method of managing the price risk for cattle is the use of options. An option is a legally binding contract which giver the option buyer the right, but not the obligation to buy or sell a feeder cattle futures contract under specific conditions in exchange for the payment of a premium.

Buying an option is like buying fire insurance on your home. You pay a premium for the opportunity to have someone else accept the risk of your house burning down. If your house does not burn you are out the cost of the insurance. If your house does burn your insurer accepts the cost of restoring your house.

Option buyers seeking price protection pay a premium. Unlike futures contracts option buyers are not subject to "margin calls" (The premium is the cost obligation to the option buyer). Option sellers, those willing to accept the risk of declining or rising prices, are required to meet the margin requirements as prescribed by the futures market exchange. Option premiums, the price of an option paid by the option buyer, are determined in a competitive market in the "cattle pits" of the Chicago Mercantile Exchange.

The two types of options are ***calls*** and ***puts***. The call option conveys to its buyer the right to buy, while a put option conveys the right to sell a futures contract at a later date. These memory devices may help you to distinguish between calls and puts: the call option suggests "call from them or "buy from them" while the put option implies "put it on them" or "sell it to them." Be careful not to misunderstand these two instruments. Each type of option requires both a buyer and seller. ***Puts and calls are not opposite sides of the same transaction.***

A call option gives the option buyer the right, but not the obligation, to buy a feeder cattle futures contract at a specified price during the life of the option. The buyer receives the protection against rising prices without giving up the chance to benefit from lower prices. Call options are usually used to purchase stocker or feeder cattle.

The opposite position, the option seller (the seller of a call option in this example), is generally someone who is willing to accept the risk of rising prices. The option seller does not expect a rise in cattle prices so he is willing to accept the risk of a rise in cattle prices for the premium paid. The Chicago Mercantile Exchange will receive the premium paid by the buyer and deposit it in the margin account of the option seller. The option seller will retain the entire premium if futures prices do not rise. However, if futures prices rise, the option seller pays for the price increase through deductions from his margin account. If the price rise exceeds the premium, he will have to pay out more than the premium. In essence, the option seller must post margin money and face margin calls (This is just like he had purchased a futures contract and was requested to meet margin requirements). A strictly regulated clearing-house oversees all transactions and guarantees performance of all contracts.

A put option gives the option buyer the right, but not the obligation to sell a feeder cattle futures contract, at a specified price during the life of the option. The buyer of a put obtains protection against declining prices without giving up the chance to benefit from rising prices. The cow-calf producer and stocker operator may be interested in the purchase of a put option to help price his cattle for a later sale. The option seller for the put option works similarly to the option seller of a call option described above. In other words, someone must take the opposite position.

Let's look at a simplified example of buying a put option on a feeder cattle futures contract. Feeder cattle option contracts specify the same units (50,000 pounds) and time periods as futures contracts.

In May a cow-calf producer buys two October feeder cattle put options with a "strike price" of $80 for a premium of $2.50 per cwt. ($2.50 per cwt. or $2500 for two contracts amounting to 100,000 pounds for his 500-pound calves). This gives him the right to sell October feeder cattle futures contracts at $80 per cwt. He is a buyer of put options. The "strike price" is the price at which one may buy or sell the underlying futures contract upon the exercise of an option. The futures market price must decrease below $80 per cwt. for the producer to profitably exercise the put options. In May the October futures market price was $82 per cwt.

If, in October, the feeder cattle futures market price is $75 per cwt. the producer could exercise his right to sell a feeder cattle futures contract at $80 per cwt. or he could sell the option to someone else for $5 per cwt. The local basis in October is $8 per cwt. over. The local cash market price in October is $83 per cwt. In this example, the producer would have realized a market price of $85.50 per cwt. for his 500-pound calves from buying the put option ($83 per cwt. from the cash market +$5 per cwt. in the futures market - $2.50 per cwt. for the put option).

Alternatively, if in October, the October feeder cattle futures price trades at $88 per cwt., the producer would not exercise the right to sell at $80 per cwt. He would simply let the option expire. This example assumes that the price movement (increase) in the futures market price is equally observed in the local feeder cattle cash market. The local cash price would be $96 for our 500-pound calves. In this scenario, the producer should realize $93.50 per cwt. (local cash price for 500-pound calves – the premium paid of $2.50 per cwt.).

It is apparent that if the producer had purchased a "put option" he would have participated in any increase in the local cash market price, or he would have been protected against a decline in the local cash market price. It is also apparent that the option did not allow the producer to capture all of the increase in local cash market price because he had to pay an insurance premium of $2.50 per cwt. to protect against a declining market price.

Putting It All Together: A producer is interested in comparing the prices that various alternatives could deliver. Which alternative—selling in the cash market, placing a short hedge or purchasing a put option – will give the best price?

Let's examine the effect of a $10 per cwt. price increase with these three market alternatives. Table 1 describes a situation in which the futures market feeder cattle price increases from $80 to $90 per cwt. between May and October. There is a historical average basis of $8 per cwt. between October feeder cattle futures and the local price for 500-pound calves.

TABLE 2: CATTLE PRICE INCREASE FROM $80 TO $90 PER CWT.

Cash Market	Futures- Hedge	Futures- Options
May 10. Do Nothing hope for $85	May 10. Sell October Contract at $80 Lock in Price of $88	May 10. Buy October Put Option at $80 + $8 basis - $3 premium $85 lock in price
Oct 15.	Oct 15.	Oct 15.
Sell 500-pound calf for $98 in cash market	Buy October contract back at $90 Sell calves at $98 in cash market	Let Option Expire Lose $3 premium Sell calves for $98
Results	Results	Results
$98 per cwt.	$98 - $10 = $88	$88 per cwt. $98 -$3 = $95

On May 10th, the producer has three alternatives: in the cash market he may do nothing and hope to sell his calves for $85 per cwt. in October. In the futures market he may hedge by selling an October futures contract at $80 per cwt., or in the options market he may purchase an October put option for $2.50per cwt. with an $80 per cwt. strike price. The basis for October is $8 per cwt. over the October futures contract for the producer's 500-pound steer calves.

In October the producer sells his calves. In all three alternatives the calves will be physically sold in the local cash market. Remember, a $10 per cwt. price increase occurred in the futures market between May and October. If the producer chose to do nothing he would now sell the calves at $98 per cwt. in the local cash market. If the producer had placed a hedge in May (sold an October contract), he would now buy an October futures contract at $90 per cwt. and sell the calves for $98 in the local cash market. However, if he had purchased an October put option he would do nothing and let the put option expire and sell the feeder cattle for $98 per cwt. in the cash market.

The results of a $10 per cwt. price increase for these three altematives ranged from$85 to $98 per cwt. Doing nothing and selling in the cash market resulted in the highest alternative sale price at $98 per cwt.

Hedging the calves in the futures market resulted in an $88 per cwt. ($98 local cash market - $10 loss in the futures market). Buying an October put option in the futures market resulted in a market price of $95 per cwt. ($98 local cash market - $3 put option premium).

When the market price increases, it is obvious that the alternative of doing nothing is optimal. However, you seldom know with certainty that the market price is going to increase. Remember a put option and a short hedge are strategies for price protection. They are not going to capture all of the market price appreciation. The put option allows the producer to participate in higher prices but at the cost of the premium. Hence, an option is always going to come in second place in a rising market. The short futures hedge is the third best alternative. It locks the producer into a price and he can't participate in any price gains.

Conversely, consider the effect of a $10 per cwt. price decrease with these three market alternatives. Table 2 describes a scenario in which the feeder cattle futures price decreases from $80 to $70 per cwt.

TABLE 3: CATTLE PRICE DECREASE FROM $80 TO $70 PER CWT.

Cash Market	Futures - Hedge	Futures - Options
May 10.	May 10.	May 10.
Do Nothing Hope for $85	Sell October Contract at $80 Lock in Price of $88	Buy October Put Option at $80 + $8 basis - $3 premium $85 lock in price
Oct 15.	Oct 15.	Oct 15.
Sell 500 -pound calf for $78 in cash market	Buy October Contract back at $70 Sell 500-pound calf at $78 in cash market	Exercise option at $80 Buy $70 feeder cattle contract Sell 500-pound calves for $78 in cash market
Results	Results	Results
$78 per cwt.	$78 + $10 per cwt = $88 per cwt.	$78 + $10 - $3 = $85 per cwt.

Again, on May 10th, the producer has the same three alternatives: doing nothing now and selling in the cash market, placing a hedge by selling an October futures market contract at $80 per cwt. or buying a futures market put option for $2.50 per cwt.

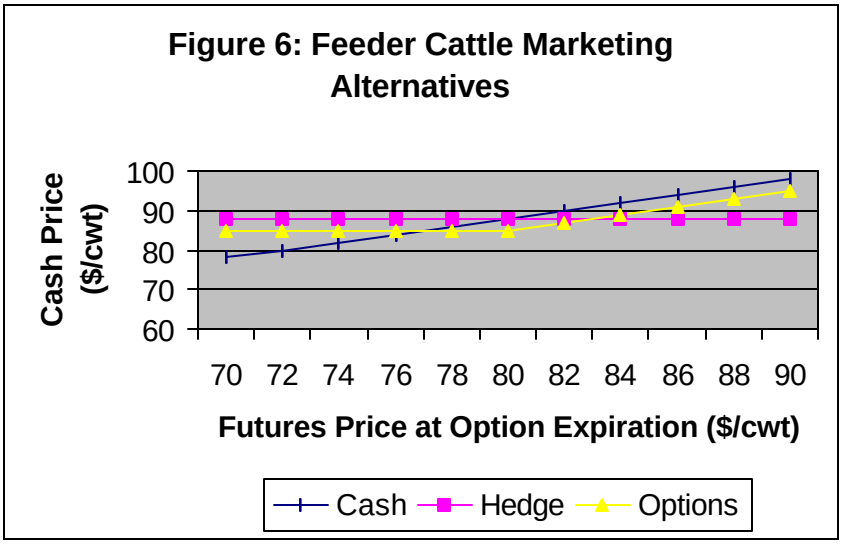
Now in October, the producer sells his calves at the local market. Remember, cattle are now sold in the local cash market and a $10 per cwt. price decrease occurred in both the cash and futures market between May and October. If the producer had chosen to do nothing in May, he would now sell the calves at $78 per cwt. in the local cash market. Note the local cash market is $8 over the futures market price of $70 per cwt. That is the basis is $8 per cwt. over. If the producer had placed a short hedge for $80 per cwt. in October, he would buy a contract for $70 per cwt. and sell the calves for $78 in the local cash market. However, if the producer had purchased an October put option with an $80 per cwt. strike price in October, he would now exercise the put option (sell an $80 October feeder cattle futures contract) and also sell the calves for $78 per cwt. in the local cash market.

The results of a $10 per cwt. futures market price decline for the three marketing alternatives ranged form a cash price of $78 to $88 per cwt. This time, doing nothing and selling in the cash market produced the

lowest market price at $78 per cwt. Hedging the calves in the futures market resulted in the highest market price $88 per cwt. ($78 in the local cash market + $10 gain in the futures market). Buying a put option in the futures market resulted in a market price of $85.50 per cwt. ($78 local cash market + $10 gain in the futures market - $2.50 premium for the put option).

Thus, with a futures market price decrease, hedging the calves in the futures market is the best alternative. The purchase of a put option again, comes in second and the cash market is the worst alternative. Thus, the use of the futures market provides the producer with price protection in a down market.

Figure 6 show the relationship of the cash price received and futures price at expiration for the three marketing alternatives. The previously described scenarios of price increase of decrease may be viewed by beginning with the $80 per cwt. futures price at option expiration. When the futures market price increases (moves to the right), the highest market price received is the cash market alternative. Conversely, when the futures price decreases (moves to the left), the highest market price received occurs for the hedged market alternative.



Regardless of a futures price increase or decrease, the put option alternative is always second best. The market price for the put option alternative ranges from $85 to $95 per cwt. The market price floor established by the put option is $85 per cwt., between $70 and $80 per cwt. for the futures price at expiration of the option. When the futures price increases above $80 per cwt., the market price received for the put option increases correspondingly but is always $3 below the cash market alternative. The hedge alternative is constant at $88 per cwt. ($80 futures market + $8 basis).

Obviously, no one knows with certainty if the futures market price will increase or decrease. Thus, a cattle producer can gain market price risk protection with either the short hedge of put option market alternative. The short hedge market alternative should be used to guard against plummeting prices at a price that will meet the producer's price objective. The put option market alternative should be used when the producer desires to establish a price floor and also have an opportunity to benefit from any price appreciation. Therefore, the choice between the short hedge and the put option marketing alternatives depends on what an individual prefers: an acceptable market price that has no opportunity of price advancement or a lower acceptable market price that may increase with market price increases.

In summary, factors affecting the overall beef market can quite complex and fluctuations difficult to anticipate. Climatic conditions can influence pasture availability and grain production resulting in significant and unpredictable swings in cattle markets. Supplies and prices of competitive meats can also change unexpectedly and imp act the beef market. However, seasonal price patterns for cattle tend to be predictable. Producers familiar with these patterns can alter their production and marketing programs to

take advantage of positive marketing opportunities. Conversely, failure to recognize these patterns and alter their plans will require producers to accept the whims of the market and its impact on producer returns.

There are market alternatives available to producers that can significantly improve and stabilize returns. Any one can sell but few producers can market cattle with skill. Profit is often the difference between employing a well-researched market strategy and just accepting what the cash market will provide. The key to making the cattle enterprise profitable is matching a reliable production program with a well-researched market plan.