Beef Cattle Marketing

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Objectives

In this unit you will learn:

* The major market classes and grades of feeder cattle and slaughter cattle.
* The marketing channels through which slaughter cattle, feeder cattle and purebred cattle are sold.
* Costs incurred by the producer in the sale of cattle.
* Costs beyond the producer in making beef available to consumers.
* How supply and demand cause feeder cattle and slaughter cattle prices to be determined.
* Terms used in and sources of livestock market news.

Requirements To Complete This Project

1. Enroll as a member of the beef project.

2. Read and study the material in this unit and complete the exercises in this manual.

3. Give at least three talks, demonstrations or exhibits.

4. Complete the 4-H Record Form in this unit.

5. Your agent or leader will tell you when the record forms, activities and exercises are to be finished.

Beef Cattle Marketing

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Beef cattle marketing includes all those activities involved in the process of moving live cattle and beef from the producer to the consumer. These activities include buying and selling or title transferring activities, and the physical handling activities such as grading, processing and transportation. A description of the various elements in the beef production and marketing process is found in Figure 1.

WHAT IS THE MARKET?

The term market is used in many different ways. These definitions should help clarify some uses of the term. What is the cattle market? This usually refers to the prices being paid for cattle at a particular place on a certain day. It may also refer to the market trend, such as steady, higher or lower. **Livestock Market**--A place where cattle are bought and sold. **Cattle Futures Market**--Cattle futures contracts are bought and sold at the Chicago Mercantile Exchange and Mid-America Exchange. The cattle futures price is that price at which contracts are being bought and sold.

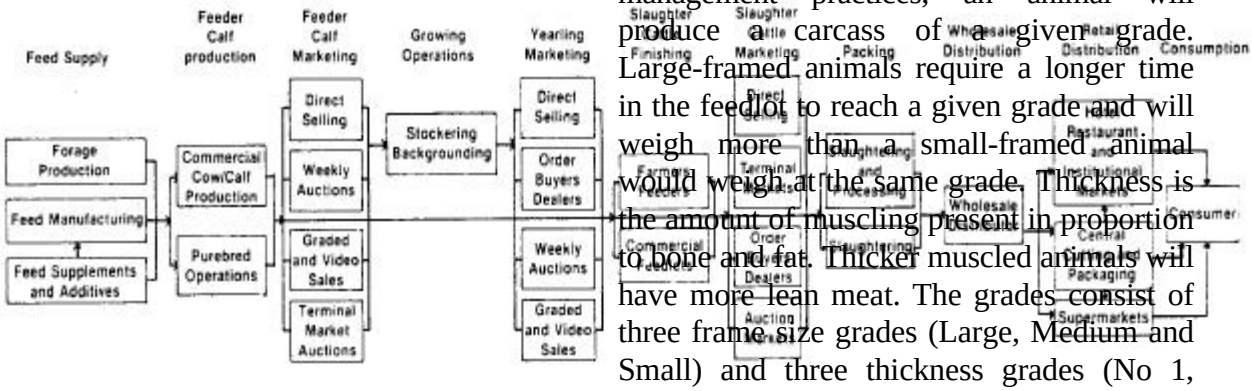
MARKET CLASSES FOR FEEDER CALVES & FINISHED CATTLE

To describe animals which are not necessarily seen by both the buyer and seller, some description must be given of these animals. The description includes items that determine value or prices such as sex, weight, grade, weighing conditions and/or dressing percent. The U.S. Department of Agriculture has developed a set of grades for feeder cattle and slaughter cattle.

FEEDER CATTLE

Feeder cattle are normally classed by sex, weight and grade. These are as follows: **Sex** Steer -- Castrated male calf, Bull -- Uncastrated male calf, Stag -- A male calf castrated after reaching sexual maturity or improperly castrated as a calf. Cow -- Female that has had one or more calves, Heifer -- Young female that has not had a calf, Heiferette -- Young female that has had a calf, **Weight** Calves sold in groups are placed in 50 to 100 pound ranges. Most calves are weighed and sold individually at weekly auctions. Some auctions group calves by ownership. **Grade** is based on evaluating differences in frame size and muscle thickness.

Figure 1. Elements of Beef Production

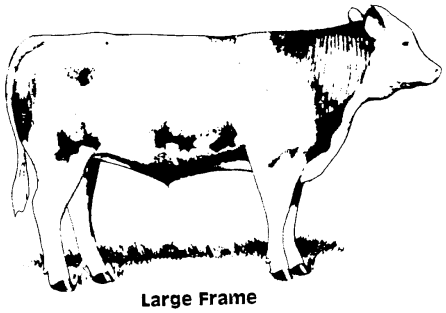


Frame size is related to the weight at which, under normal feeding and management practices, an animal will produce a carcass of a given grade. Large-framed animals require a longer time in the feedlot to reach a given grade and will weigh more than a small-framed animal would weigh at the same grade. Thickness is the amount of muscling present in proportion to bone and fat. Thicker muscled animals will have more lean meat. The grades consist of three frame size grades (Large, Medium and Small) and three thickness grades (No 1, NO. 2 and NO. 3.).

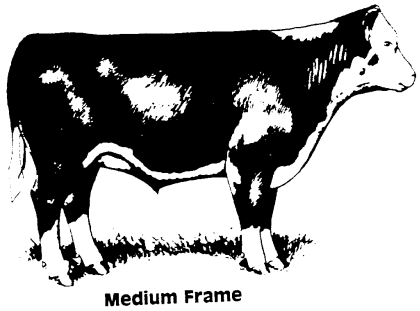
Specifications for each frame size are as follows: **Large Frame** (L) -- Feeder cattle in this grade are thrifty, have large frames, and are tall and long-bodied for their age. Steers would not be expected to produce the amount of external fat opposite the twelfth rib-- usually about .5 inch--normally associated with the U.S. Choice grade until their live weight exceeds 1,200 pounds. Heifers would not be expected to produce Choice carcasses until their live weight exceeds 1,000 pounds.

Medium Frame (M) -- Feeder cattle in this grade are thrifty, have slightly large frames, and are slightly tall and long-bodied for their age. Steers would be expected to produce U.S. Choice carcasses (about .5 inch fat at twelfth rib) at live weights of 1,000 to 1,200 pounds. Heifers would be expected to produce Choice carcasses at 850 to 1,000 Pounds.

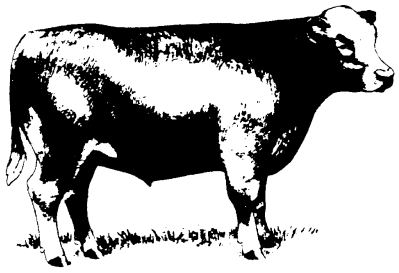
Small Frame (S) -- Feeder cattle included in this grade are thrifty, have small frames, and are shorter-bodied and not as tall as specified as the minimum for the Medium



Large Frame



Medium Frame



Small Frame

Frame grade. Steers would be expected to produce U.S. Choice carcasses (about .5 inch fat) at live weights of less than 1,000 pounds. Heifers would be expected to produce Choice carcasses at live weights of less than 850 pounds.

Specifications for each thickness score are as follows:

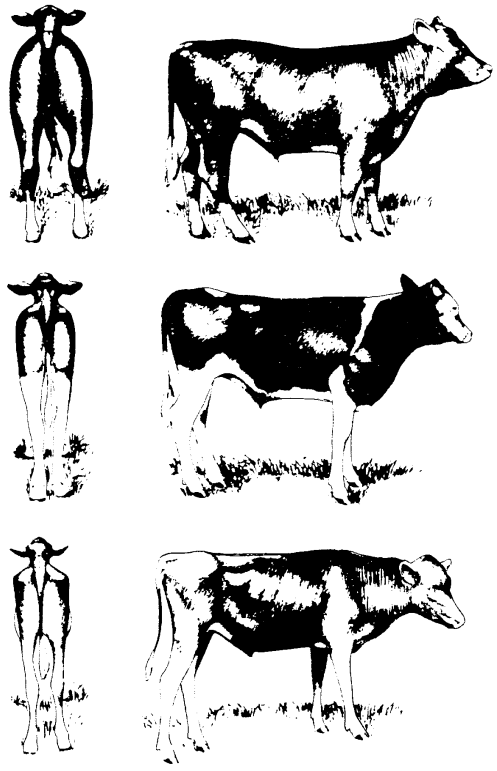
Number 1 -- Feeder cattle included in this grade usually show a high proportion of beef breeding. They must be thrifty and slightly thick throughout. They are slightly thick and full in the forearm and gaskin, showing a rounded appearance through the back and loin with moderate width between the legs, both front and rear. Cattle show this thickness with a slightly thin covering of fat, however, cattle eligible for this grade may carry varying degrees of fat.

Number 2 -- Feeder cattle which possess minimum qualifications for this grade are thrifty and narrow through the forequarter and the middle part of the rounds. The forearm and gaskin are thin and the back and loin have a sunken appearance. The legs are set close together, both front and rear. Cattle show this narrowness with a slightly thin covering of fat; however, cattle eligible for this grade may carry varying degrees of fat.

Number 3 -- Feeder cattle included in this grade are thrifty animals which have less thickness than the minimum requirements specified for the No. 2 grade.

In addition to nine possible combinations (3 frame size, 3 muscle thickness) of feeder grades for thrifty animals, there is an Inferior grade for unthrifty animals. The Inferior grade includes feeder cattle which are unthrifty because of mismanagement, disease, parasitism or lack of feed. An animal grading Inferior could qualify for a thickness and frame size grade at a later date provided the unthrifty condition was corrected.

SLAUGHTER CATTLE



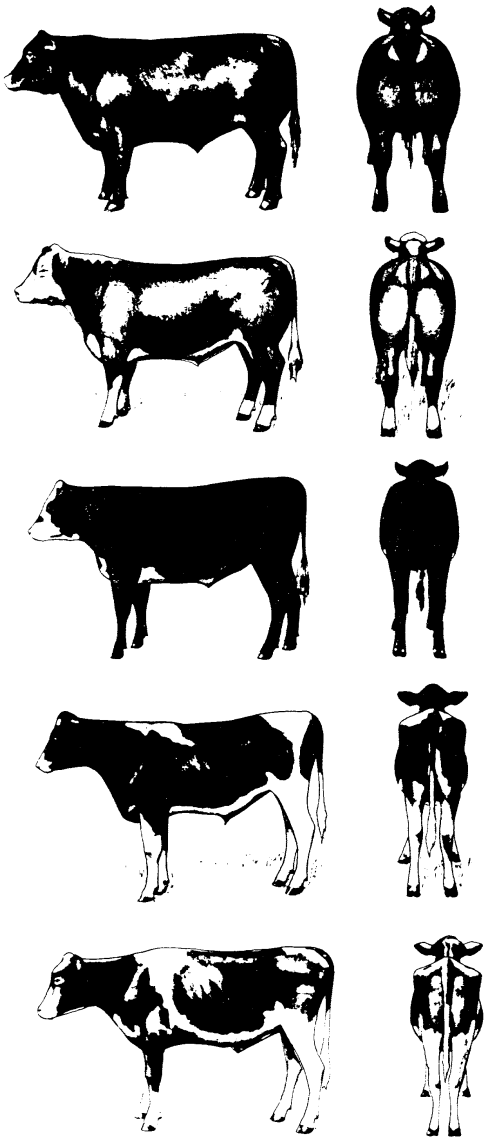
The grades of slaughter cattle are based on two primary factors -- quality of lean (marbling) and amount of saleable meat. Quality of the lean affects palatability. Tenderness, juiciness and flavor are characteristics which affect the quality of lean and palatability. The quality of lean is identified by USDA quality grades. The other factor is the amount of saleable meat and is identified by USDA yield grades. Both quality and yield grades of slaughter cattle are intended to be directly related to the grades of the carcasses they produce.

Quality Grades

Eight USDA quality grades apply to slaughter steers, heifers and cows--Prime, Choice, Select Standard, Commercial, Utility, Cutter and Canner. Cows are eligible for all the grades except Prime. Carcasses from young bulls or steers exhibiting secondary sex characteristics such as a crest are called bullocks and are graded Prime, Choice, Select, Standard or Utility. There are no quality grades for mature bulls because they are yield graded only. Descriptions of the quality grades are as follows:

PRIME -- The steer or heifer is less than 30 months old and has a moderately thick, smooth covering of fat over the back, ribs, loin and rump. It is well filled out in the brisket, flanks and Cod (scrotum remaining after castration).

CHOICE -- This steer or heifer is very similar in appearance to the Prime grade animal. Generally the Choice animal has slightly less covering of fat over the back, ribs, loin and rump. It is also moderately filled out in the brisket flanks and cod.



SELECT -- The animal is not as wide and thick over the top as the Choice and Prime steers. It has a thin covering of outside fat, most of it over the loin and ribs. In addition, the brisket, flanks and cod appear to be only slightly full.

STANDARD -- This is typically a young, slightly rangy animal. It has only a very thin covering of outside fat. There is little evidence of fullness in the brisket and flanks.

UTILITY -- This rangy and angular animal shows little evidence of finish--a very thin covering of outside fat and hardly any fat deposits in the brisket and flanks. Although slaughter cattle within the full range of maturity--from very young to very old-- are eligible for this grade, very few steers and heifers grade Utility. Most of the slaughter cattle in the Utility grade are mature cows. In the market place Utility cows bought for on going purposes are worth more than cows which are slightly fatter. Those which are somewhat fatter are called breaking utility and are merchandised as whole cuts.

COMMERCIAL -- This grade is reserved for those animals over 42 months of age (mostly cows) that have the same minimum requirements for quality of lean (marbling) as a Choice grade animal.

CUTTER -- This grade is generally reserved for aged cows culled from dairy and beef herds. This grade animal may have a slight amount of finish and will be slightly meaty in appearance.

CANNER: This grade is reserved for animals that are thin, showing no fleshing and very little meatiness.

The five USDA yield grades are numbered 1 through 5. Yield Grade 1 slaughter cattle produce carcasses with the highest yields of retail cuts; Yield Grade 5, the lowest. Yield grades 2 and 3 are generally in greatest demand by the meat industry. Yield grade 1 carcasses are few in number and typically do not have sufficient finish to grade Choice. Yield grade 4 and 5 carcasses are generally overfinished, less desirable and discounted heavily in the meat business.

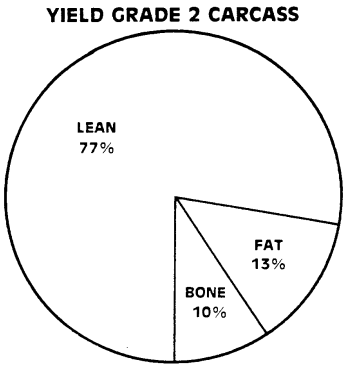
The differences in fat and lean for yield grades 2 and 4 are shown in the pie charts. The yield grades are completely separate from quality grades. For example, Choice, Yield Grade 2, slaughter cattle would have the same expected yield of cuts as Yield Grade 2 slaughter cattle of any other quality grade.

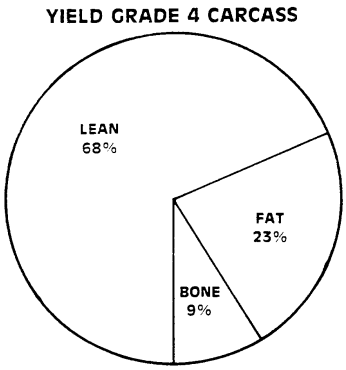
Yield grades for slaughter cattle relate directly to yield grades for carcass beef and are based on the same grade-determining factors: (1) thickness of fat over the ribeye, (2) area of ribeye, (3) percent kidney, pelvic and heart fat, and (4) carcass weight.

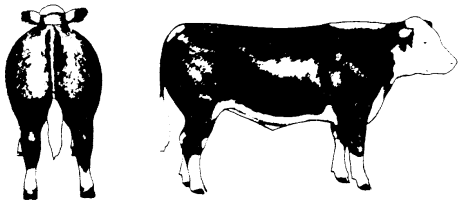
Yield Grade 1 -- The Yield Grade 1 slaughter animal is thickly muscled throughout. This is particularly evident in the thick, bulging rounds and the thick, full forearm. It is rounded over the top and trim in the underline flanks and brisket. These characteristics indicate very little outside fat. Looking at an animal from the rear, notice that it is thicker through the lower part of the quarter than over the back. These are characteristics of well-muscled cattle with very little outside fat. A slaughter steer weighing 1,100 pounds typical of Yield Grade 1 will usually have about .2 inch of fat over the ribeye and a 14.0 square inch ribeye. Although not produced in great number, this is a good example of the modern "meat type" steer that combines quality with a high yield of retail cuts.

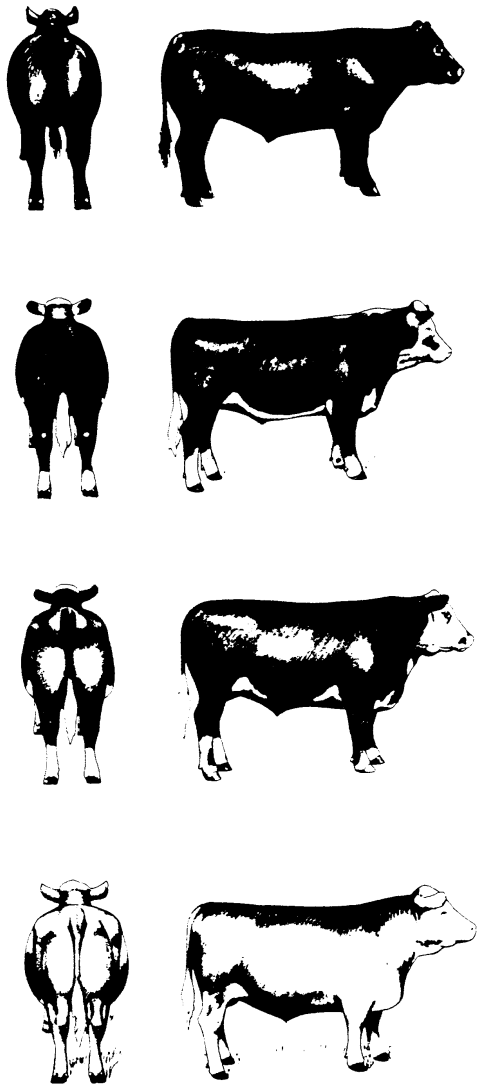
Yield Grades

Yield grades provide the means for identifying beef carcasses and slaughter cattle by yield of trimmed retail cuts, one of the two major value-determining factors. Slaughter cattle and beef carcasses of the same quality grade vary greatly in their yields of retail cuts and, therefore, in value.









Yield Grade 2 -- A typical Yield Grade 2 slaughter steer is not as thickly muscled as the Yield Grade 1 steer, however, it would still be considered well-muscled. It has fairly thick, plump rounds and has more width and thickness through the center of the rounds than over the top. The fairly thick, full forearm and rather prominent shoulders also point to a well-muscled animal. It has little outside fat and is smooth and well-rounded over the top and trim in the underline, flanks and brisket. A slaughter steer weighing 1,100 pounds typical of a Yield Grade 2 will usually have about .4 inch of outside fat and a 12.5 square inch ribeye.

Yield Grade 3 -- Most Choice cattle fall into this grade. It has more outside fat than the Yield Grade 2 steer and is not as well-muscled. It is a little deeper bodied--not as trim in the underline, flanks and brisket. The moderately thick covering of fat over the rump, loin and ribs makes it appear slightly flat over the top. It is only slightly wider through the center of the rounds than over the top and has only slightly prominent forearms. A slaughter steer weighing 1,100 pounds typical of a Yield Grade 3 will usually have about .6 inch of fat over the ribeye and a 11.5 square inch ribeye.

Yield Grade 4 -- A Yield Grade 4 animal is a deep-bodied, thick-topped animal with quite a bit of outside fat. It is deep and full in both the fore and hind flanks and full in the brisket flat over the back and loin, and has a noticeable break into the sides. It is also slightly patchy around the rump. Looking at an animal from the rear, it will lack thickness and fullness of muscling, and is wider over the top than through the center of the rounds. These are all indications that it would produce a thinly muscled, overfat carcass. A slaughter steer weighing 1,100

pounds typical of a Yield Grade 4 will usually have about .9 inch outside fat and an 11.0 square inch ribeye.

Yield Grade 5 -- A Yield Grade 5 animal is thinly muscled and over-finished. The thick covering of fat over the rump, loin and ribs makes it flat over the top with a sharp break into the side. It is wasty in the underline and rough and patchy about the rump. It is also narrow through the lower part of the quarter. It is quite a bit wider over the top than through the center of the rounds, and will produce a wasty, fat carcass with a low percentage of retail cuts. A slaughter steer weighing 1,100 pounds typical of a Yield Grade 5 will usually have 1.2 inches of fat over the outside and a 10.5 square inch ribeye.

DRESSING PERCENT AFFECTS PRICES

In order to know what your cattle are worth on a given day, you need to know what your cattle would grade and what the cattle would weigh. This is true of both feeder cattle and slaughter cattle. It is also important that the seller understands several other factors which can affect the value of cattle. some of these include breed, flesh of feeder cattle (fat or thin), weighing conditions and transportation. When considering weighing conditions for feeder cattle, the more empty the cattle the more they are worth per pound. Conversely, the fuller the cattle the more they will shrink.

Such cattle must be purchased for less to be equal in value to cattle with average fill or shrink. When evaluating the live value of slaughter cattle, whether finished or cull stock, the expected dressing percentage or yield is a very important factor.

The formula for dressing percent or yield is:

$$\text{Dressing Percent} = \frac{\text{Carcass Weight}}{\text{Live Weight}} \times 100$$

The carcass price and expected dressing percentage determine the price which buyers of live finished or cull slaughter cattle pay on a given day. Purchasers of finished slaughter cattle and cull breeding cattle require their buyers to estimate dressing percentage within one-half of 1 percent. Buyers know that certain factors limit dressing percentage. These include conformation, finish, degree of paunchiness (fill or feed and water, also pregnancy in cows), and refinement of head, hide and bone. Cattle that are highly finished trim of middle and light in hide, head and shanks will yield the highest percentage of carcass when slaughtered. Weighing conditions prior to slaughter are probably the greatest single factor affecting dressing percentage in a given class of cattle. Dressing percentages will be higher on cattle that have been hauled a long distance prior to weighing, have been held at the farm or packing plant without feed and/or water prior to weighing, and have had a pencil shrink applied to the live weight.

Heifers dress about 1 percent less than steers and cows about 1 to 3 percent less than steers of comparable finish. Lean bulls dress 54 to 57 percent while fat bulls will dress 57 to 61 percent. Because of the many factors affecting dressing percentages, Table 1 included here can be used only as a guide.

Table 1
Approximate Average and Range
in Dressing Percentages
of Slaughter Cattle

Grade	Range %	Average %
Prime	62-67	60
Choice	59-65	62
Select	58-62	60
Standard	55-60	57
Commercial	54-62	57
Utility	49-57	53
Cutter	45-54	49
Canner	40-48	45

Exercise 1:
If you showed a steer in a finished cattle show, answer the following questions.
(A) What was the live weight of your steer?
(B) What was the carcass weight of your steer?

(C) What was the dressing percentage?
Carcass Weight x 100 =
Live Weight

(D) Was your steer graded? yes no

(E) What was the Quality Grade?
Yield Grade?

(F) What was the USDA market price for carcasses grading the same as yours?

MARKETING CHANNELS FOR FEEDER & SLAUGHTER CATTLE

FEED CATTLE Auction Sales -- Most feeder calves are sold through auction sales. Calves are brought to the livestock auction barn where they are penned until sale time. They are then taken from the receiving pens, weighed and moved to the ring where buyers bid on individual animals. These sales are called weighout sales. Some markets weigh cattle upon arrival at the market. In some cases, if a producer has a number of calves that are very similar, they will be sold as a group. This grouping depends on the policies of the individual market. The big advantage for auction markets is that they are generally held on a weekly basis. It is very convenient for producers to select a time for merchandising their cattle. Also, when the cattle are moved through the auction ring, there are generally several buyers who bid on them. This is considered to be a fair way to establish the current market price.

Graded Sales -- Calves are brought to one sale location where the calves are graded and weighed. Calves are placed in pens with other producers calves of similar weight and grade. This process is called commingling. By offering their calves in larger groups of uniform weight and grade, producers generally receive higher prices for their calves. Most of the calves are purchased by order buyers or feeder calf dealers who transport the calves to farmers in the Corn Belt or the West. There the calves are backgrounded or placed in a feedlot where they are fed to slaughter weight. At times calves may be shipped through one or more dealers before arriving at the feedlot. Order buyers often haul the calves on their own trucks and receive payment for their transportation and buying services. Many

calves are purchased by local farmers who plan to background them.

Video Board Sales -- This type of sale can be used by producers with large uniform groups of calves or yearlings. Before the sale day the animals are graded, weights estimated and other descriptions of the cattle are made. Prior to the sale, buyers are sent this information along with a video tape of the cattle. Potential buyers are given the opportunity before the sale to look at the animals on the farm. At the time of sale, buyers look at slides or video tapes of the cattle. Buyers also review the description of cattle and the sale terms that have been provided for them. The cattle are not present at the sale location and animals are auctioned off on an ownership group basis. Generally, animals sold through a video board sale are taken to an auction market or other licensed scale for weighing within 14 days after the sale.

Direct Sales -- Some buyers prefer to purchase calves from the farm on which they were produced. Health problems and mortality are probably less than with calves from an auction sale or commingled calves from a graded sale. It is difficult to find a large volume of uniform feeder calves or yearlings on a single farm. Some sellers prefer to sell directly from the farm and save the selling commission. In addition the seller does not have to commit to a sale price before the cattle leave the farm. The producer selling directly from the farm may be at some disadvantage compared to the buyer who buys cattle daily. Prices paid for calves purchased on the farm are usually based on auction and graded calf sales.

Exercise 2:

Visit a local livestock auction barn. Answer the following questions:

(A) How many cattle were offered for sale?

(B) When are cattle weighed?

(C) How were animals Sold? (Individually or groups)?

(D) How were animals penned after they were sold?

(E) What is the commission for selling an animal?

(F) What is the yardage for selling an animal?

(G) What other charges are made for selling an animal?

Exercise 3:

Visit a feeder calf sale. (Answer the following questions.)

(A) How many cattle were offered for sale?

(B) HOW were cattle penned?

(C) What weight breaks were used?

(D) What were the selling charges?

(E) How were odd lots handled?

(F) What are two main differences between weekly auctions and graded feeder calf sales?

Exercise 4:

Visit an order buyer (Answer the following questions.)

(A) What services does an order buyer provide?

(B) How much does an order buyer charge?
(C) How many sales does an order buyer purchase cattle from?

(D) To what states does an order buyer ship cattle?

(E) For whom does an order buyer purchase cattle?

(F) How long does it take for an order buyer to put a load of cattle together?

SLAUGHTER CATTLE

Direct Sales -- Many producers finishing cattle sell them directly to the packer or country buyer. Prices paid at the plant by packers are usually slightly higher because they have lower costs (transportation, death loss and shrink) than country buyers.

Finished cattle purchased by the packer may be bought on either a live basis or on a carcass basis. Packers purchasing live animals estimate carcass grade and dressing percent to determine the price that is paid. Cattle purchased on a carcass basis are priced based on hot carcass weight and by the actual quality and yield grade as determined by the USDA grader. Prices are usually taken from a widely quoted source such as the daily Yellow Sheet. The Yellow Sheet is a private market news service which is used by meat packers and buyers of livestock and meat.

Direct sales to a packer work quite well for producers with a few cattle. Feedlots having large numbers of cattle ready for slaughter at one time may get the packer to come to the feedlot to bid on and perhaps purchase the cattle.

Country buyers will bid on cattle at the farm based on expected weight, quality, grade and yield grade. An estimate of shrinkage, transportation cost and expected carcass value is generally made by the buyer in bidding on the cattle.

Terminal Markets -- These are livestock trading centers where facilities are provided for receiving, caring for and handling; where the privileges of buying and selling are available to all who wish to use them. Major beef cattle terminals in the United States, such as St. Louis and Omaha, are sources of daily market price information. Many buyers base their prices on terminal markets. At a terminal market the producer is represented in the sale of cattle by a commission company. This representative negotiates the best price with order buyers and packer buyers. The producer pays the commission company for their services. Even though finished cattle and slaughter cows and bulls are marketed in this manner at a terminal market, feeder cattle brought to terminal markets are generally sold at auction.

Auction Markets -- Some slaughter animals are sold at auction markets. Animals are typically bought by order buyers for further shipment and sale to a packer. Auction markets are the primary route for selling cull cows and bulls for slaughter.

PUREBRED CATTLE

Purebred Sales -- At purebred auction sales cattle are brought to a central location and moved through an auction ring where buyers have the opportunity to bid on the individual animals. Usually in purebred sales, a catalog giving information on pedigrees and performance is printed. This information is distributed to potential buyers prior to the sale. Cattle are usually brought to the sale location a specified length of time before the sale to give potential buyers an opportunity to look at the animals.

Purebred auction sales may be divided into three distinct categories. These include production sales, dispersal sales and performance tested sales. A production sale is one in which one or more producers have a sale to market the animals they have produced on their farms. A dispersal sale is one where all animals on a farm or production unit are sold at auction. A performance tested sale is one in which animals that have completed a performance testing program are sold. Generally the animals sold in this type sale have met minimum performance standards (average daily gain, weight per day of age, 365 day weight, etc.)

Most animals marketed through performance tested sales are bulls that have completed a feeding test at a test station or on the producer,s farm.

Direct Sales -- Most purebred breeders also market cattle by selling direct from the farm. The breeder may advertise through breed magazines or newspaper ads. The breeder usually has cattle in different price ranges based on quality, performance and pedigree. some beef producers may desire to purchase directly from the breeders farm. The producer visits the farm, selects the cattle to purchase and then negotiates a price with the seller.

Exercise 5:

Visit a purebred sale or purebred breeders form (Answer the following questions. If a sale is visited:

(A) How many animals were offered for sale? COWS BULLS Calves Other

(B) Was a catalog prepared for the sale?

(C) What information was presented in the catalog?

(D) What are the charges for selling in a purebred sale? If a farm is visited:

(E) What ages and sex of cattle are offered for sale?

(F) What range of prices are placed on the cattle?

(G) What performance records were available on the cattle offered for sale?

MARKETING COSTS

There are certain costs incurred in the process of getting cattle from the farm to the retail store. Those costs which occur prior to the livestock sale should be evaluated by beef producers in studying their marketing alternatives. There are also other costs in the marketing process which affect prices received by beef producers. They have little if any control over these costs, but they should be understood .

PRODUCER MARKETING COST

Transportation -- Movement of cattle from the farm to the first point of sale or weighing is usual!y at the owner's expense. At times, direct sales to buyers at the farm will specify that the buyer is to haul the cattle from the farm to the market or plant. Transportation cost is affected by the distance to market, the cost to operate the vehicle and the size of the vehicle (weight or number of animals which can be hauled). A truck filled to capacity will have lower transportation cost per head than one used at less than capacity. When loaded to capacity, larger trucks cost less to operate per head than smaller trucks. True transportation costs should be evaluated when comparing alternative markets. Transportation costs also influence prices paid for feeder cattle. (This will be covered in the section on market prices.)

Overloading trucks is a major cause of bruises in loads of cattle which have horns or horns which have been tipped. Adequate space should be allowed when transporting cattle to allow proper ventilation. Underloading can cause excessive shifting of cattle when starting and stopping. This increases stress and shrinkage. Table 2 provides a rule of thumb guide for the number of cattle or calves which can be loaded per running foot of truck floor. The guide is for a truck with a standard 92 inch width. For cattle with horns these figures should be reduced 5 percent.

Table 2
Minimum Truck Space Requirement for Hauling Cattle
(Reduce by 5 Percent for Cattle with Horns)

Average Weight	Number of Cattle per Running Foot of Truck Floor 921' Width
300	1.5
350	1.3
400	1.1
450	1.0
500	0.9
600	0.8
700	0.7
800	0.6
1,000	0.5
1,200	0.4

To estimate the number of 450-pound cattle that should be hauled on a 40-foot-long double deck truck, simply multiply 40 by 1. This gives 40 per deck or 80 head. If the cattle have horns the number should be reduced 5 percent (80 x .95 = 76 head).

During hot weather try to haul the cattle at night or in the early morning. Try not to mix strange cattle. Fighting to establish a new societal order prior to slaughter can increase the number of dark cutters. (This is a condition where the meat is very dark in color and IOW in value.)This is especially true of cows and bulls. Hauling of wet cattle, especially feeder cattle, during extremely cold weather should be avoided to help prevent sickness or deaths due to wind chill. Wetting a calf during cold weather has the

same effect as lowering the outside temperature by 40 or 50 degrees F.

Separate cattle and calves when hauling to market. This can help prevent injury to the smaller animals and also keep them from getting dirty from manure.

Shrinkage -- Loss of weight during the marketing process is called shrinkage or "drift". It results from excretory shrink (elimination of feces and urine) and tissue shrink. Excretory shrink is the initial loss of belly fill. Much of this loss is replaced when cattle are again allowed to eat and drink. Tissue shrinkage occurs after holding cattle off feed and water. It also occurs when cattle are subjected to stresses such as hauling. Tissue shrink may occur early in a haul of cattle. However, it becomes more important than excretory shrink the longer the shipping time. Since it is actual loss of tissue weight, it is harder to replace. In finished cattle it does represent a loss of carcass weight to the seller.

Sellers of cattle may be docked in price if cattle are over-filled. In contrast, sellers may not be duly compensated for cattle that are shrunk or dried out. Sellers should plan to have their cattle in average condition or fill. Usually anything that reduces stress in the hauling process will reduce shrink. Good loading and holding facilities, easy handling during the loading process and minimizing quick starts and stops in the hauling process can reduce shrinkage. Most of the shrinkage occurs during loading and in the first part (25 miles) of a trip. Cattle may lose half as much in 25 miles as they do in 200 miles. As the time increases, so does shrinkage, but at a slower rate than the first few miles.

Professional cattle buyers may ask for a pencil shrink on cattle weighed on the farm, on a truck or after a very short haul from the farm to the scales. Pencil shrink is a percentage deduction from the weight of the cattle. This makes the weighing condition similar to cattle that were processed through a market. Pencil shrink is usually 2 to 3 percent for feeder cattle and 3 to 4 percent for finished cattle. Sellers of cattle should beware of double shrink. This is a pencil shrink on top of a haul over 20 miles before weighing cattle off the truck. It might also be a pencil shrink after cattle have been off feed and/or water overnight. Cattle which have greater shrinkage or a pencil string applied should be worth more per pound if other factors are equal.

Difference in shrinkage between steers and heifers is variable but heifers shrink slightly more. Finished cattle shrink more than feeder cattle in the first eight to 10 hours. Feeder cattle shrink about 2 percent more on long hauls, up to 7 or 9 percent. An overnight stand of 12 hours without feed or water can cause 4 percent shrink in cattle on lush grass or silage. The same cattle on a high grain ration may lose only 2.5 to 3 percent.

Sellers should always be present when their cattle are weighed to insure accuracy, fairness and to reduce misunderstandings. Table 3 gives a guideline on feeder shrinkage based on time in dry lot and time in a moving truck.

Table 3
Feeder Steer Shrinkage

Conditions	Percent Shrink
8-hour drylot stand	3.3
16-hour drylot stand	6.2
24-hour drylot stand	6.6
8 hours in moving trucks	5.5

16 hours in moving truck	7.9
24 hours in moving truck	8.9

Bruises -- Economic losses due to bruises in slaughter cattle can be significant. In the packing business, bruises on the carcass are trimmed off by the inspector before the carcass is weighed. A producer selling on a carcass basis not only loses the weight trimmed from the carcass, but the remaining carcass may have a lower value as well. Most bruising of cattle occurs in the areas of higher priced cuts, such as the hip region. Surveys have indicated that two-thirds of all cattle bruises are caused by crowding, bumping and rushing. Use of canes, whips and clubs were responsible for another 10 percent of bruise losses. Beef producers can reduce bruises to slaughter cattle by taking time in handling, loading and transporting cattle. In addition, limited use of backslappers, brooms and electric prods can reduce the incidence of bruises to cattle. This also increases returns on cattle sold on a carcass basis.

Commission -- When cattle are sold through a public market, a fee or commission is charged to pay for the services rendered. These services include insurance, facilities, immediate payment, bonding, the auctioneer and insuring adequate buyers for the sale. Commission may be assessed on a per head basis, a percentage of gross sale value or a combination of the two. In some markets, a yardage fee is charged for use of the facility while the commission is charged for selling the cattle. Other services, such as feeding, vaccinations, castration and dehorning, may be provided by the auction market. A schedule of fees is always posted in the office of the market. This is required by the Packers and Stockyards Administration of the U.S. Department of Agriculture. This agency regulates buying and selling activities of public markets and meat packers, as well as order buyers and dealers.

Exercise 6.

Based on your visit to a livestock auction market or graded sale, answer the following questions.

(A) How much do feeder calves shrink when hauled from the market to the feedlots in the West?

(B) Who is responsible for calves that could die during shipment?

(C) How much does it cost per mile to transport feeder cattle to the feedlots per mile?

(D) Who pays for the trucking? Talk to a producer who has brought cattle to the market. Why did they select this particular market? List in order of priority.

____ Location
____ Day of Week
____ Price Number of Buyers
____ Services Offered

(E) How much did it cost to sell a feeder calf? $_____ to sell a cow? $_____

MARKETING COST BEYOND THE PRODUCER OF FINISHED CATTLE

The Farm-to-Retail Price Spread -- The difference in farm and retail prices makes up the farm-to-retail price spread. This is sometimes called the marketing bill. Items in this marketing bill include labor, packaging, intracity transportation, rent and depreciation, before tax profits, fuel and electricity, advertising, interest and repairs. The farm-to-retail spread is made up of a farm-to-carcass portion, usually 10 percent of the spread, and a carcass-to-retail spread, which is usually 90 percent of the total spread. The farm-to-carcass spread pays for slaughter and processing of the cattle and for transporting the meat to the city where consumed. The carcass-to-retail spread includes retailing, meat fabricating (breaking down into retail cuts wholesaling and intracity transportation.

The farmer's share of the retail beef dollar is generally 55 to 60 cents per retail dollar. It may range from 50 cents to 65 cents at times. Generally the more processing or value added to the beef once it leaves the farm, the higher the retail price and the smaller is the farm share. This does not mean farm prices are lower. It results from meat packers and others getting paid for providing more service and a product which may be in greater demand.

Exercise 7. Visit a retail food store which sells fresh beef. Choose a time or ask the manager when he or she would have 30 minutes to spend with you. Some questions to ask the manager are:

(A) Where does the store buy its beef?

(B) Is the beef purchased in carcass or boxed form? Why?

(c) What grade(s) of beef are purchased?

(D) What expense items are incurred in preparing the beef for sale?

(E) What happens to beef that does not sell?

MARKET PRICES FOR SLAUGHTER CATTLE AND FEEDER CATTLE GENERAL CONCEPTS

Trend -- The long term trend in cattle prices over several cycles is caused by changes in cost of production. Much of the increase in cost of production between 1970 and 1980 was caused by inflation or rising prices.

Cycle -- Cyclical changes in cattle prices are caused by yearly changes in cattle slaughter and the cattle inventory. These changes are brought about by beef producers' reaction to past, current and expected profits or losses in their beef operations. Producers with cow-calf herds bring about the change in the inventory. Producers act individually but in response to the same or similar economic conditions. Cattle cycles last about 10 years, from one low in the inventory to the next low. It takes about 30 months to make some changes in the inventory through breeding heifers otherwise intended for the feedlot. It takes four to five years to significantly increase the total cattle inventory.

Seasonality -- Seasonal changes in cattle prices are those price movements which occur with some regularity in each calendar year. Seasonal change in the supply of cattle available is the greatest single factor causing seasonal price changes. Greatest variation is found in slaughter cows, followed by feeder calves and finished slaughter cattle. Marketing of cows and calves is more seasonal. Because of the increase in year around feeding of finished cattle, prices do not vary as much. Strong demand for light calves in the spring combined with smaller supplies causes their prices to be higher.

Irregular -- Price movement for slaughter cattle on a day-to-day or week-to-week basis is affected by the number of cattle available for slaughter and the beef packer's need for cattle. If the value of all products sold by beef packers exceeds what is being paid for the cattle plus the costs of slaughtering and processing, packers bid higher prices for cattle. However, should the wholesale value of beef decline, packers will attempt to purchase cattle at lower prices. Packers try to keep the kill volume up when profit margins are accePtable and reduce volume when margins are negative. Packers buy cattle either at the plant or through country buyers, dealers, terminals and auctions. over 90 percent of the steers and heifers are purchased directly at the plant or through country buyers and dealers. About 60 percent of the cows and bulls are purchased through terminals and auctions, with the remainder purchased directly. When more cattle are needed, prices are increased. When fewer are needed, price offers are lowered.

MARKET PRICE DETERMINATION FOR SLAUGHTER CATTLE

Market prices for beef are jointly determined by forces of supply and demand. There are many factors which affect supply and demand. Some of these factors are difficult to measure at a specific time.

Demand -- Demand for a product is not consumption. Instead it is the alternate quantities which consumers or other buyers will take off the market at specified prices. An increase in demand takes place when: (1) there is an increase in consumption at the same price or higher, or (2) when there is consumption of the same or greater quantity at a higher price. Several factors have an influence on demand for beef. These are: (1)

human population, (2) consumer preferences (3) production and prices of pork, broilers, fish and other competing products, (4) marketing costs and margins, (5) habits, culture, season and other environmental characteristics.

Supply -- Cattle supply is not simply the number of cattle produced or quantity placed on the market. It is the relationship between quantities producers are willing to produce and place on the market at all alternative prices. If price goes up, given some level of production cost, producers will produce and supply more cattle to the market. If price goes down, producers will generally produce less. Factors which determine supply are: (1) cost of production, (2) opportunities for income from other enterprises, such as row crops, (3) profit expectations and (4) time. The longer the time period considered, the more production can change due to high or low prices. In a very short time period (such as a day or week) production cannot be varied much.

Prices are determined by the continuous flow and interaction of supply-demand information among producers as well as up and down the beef marketing chain from consumer to producer.

Price Discovery Process -- Prices are determined by the interaction of supply and demand factors. Prices are discovered through the action of buyers and sellers in the marketplace. For finished cattle sold at the feedlot, packer buyers and dealer buyers attempt to bid prices either higher or lower each day. Information, such as the wholesale beef price, trend the day before, volume of cattle offered for sale, volume needed by the packer, futures price trend and meat prices for similar cattle, all affect the prices buyers offer. Sellers also have some of this information. In addition, the seller knows the cost of gain, whether the cattle are making money and how badly the cattle need to be sold. Both parties may have some notion of the future direction of prices, but neither is certain. Market information and time available both affect the price discovery process. Prices are reported from sales at feedlots, terminal markets, at packing plants and in the futures market. This information flow affects price bids and offers on a given day and the day following.

Price discovery for cull bulls and cows tends to happen at terminal and auction markets. Trends in prices for boneless beef and carcass beef are the primary factors causing changes in prices bid for cows and bulls. The supply is somewhat fixed on a given day, based upon the volume of cattle brought to market.

When beef production increases, sellers of finished cattle are in a weaker position relative to packers. Buyers do not need to compete so strongly to get the cattle needed. Prices to producers decline faster than wholesale prices and packer margins widen. This is because of a bigger gross margin and lower processing cost per pound. At the time when farm prices for cattle are low, packer profit margins tend to be larger and vice versa.

MARKET PRICE DETERMINATION FOR FEEDER CATTLE

Most feeder cattle are sold at auction. These may be general livestock auctions, graded feeder sales or video board sales. Feeder cattle are also bought directly from the farm where price is negotiated between buyer and seller.

There are four components to the demand for feeder cattle. One component is feedlot demand. Since there is consumer demand for beef at the retail store, there is a demand for carcass beef and finished cattle. In addition, since there is a demand for finished cattle there is a demand for feeder cattle to be finished. The demand for feeder cattle is derived from the demand for fed cattle. The second source of feeder came demand is for heifers for herd replacements. A third source is from producers who have a demand for calves to be grown on grass or forage. This is called stocker demand. These are calves which are desired for backgrounding or growing operations either on pasture and hay or silage. Demand is strongest in the spring and fall. Fourthly, there is also a slaughter demand for calves which tends to be important when there is an oversupply of calves relative to the needs of feedlot and stocker operators.

The feedlot demand for feeder calves and feeder yearlings is the most consistent of the four sources of demand throughout the year. There is almost always a demand for calves to go to the feedlot. However, prices feedlots are willing to pay can vary widely from month to month. me prices feedlots are willing to pay for feeder calves increases as the cost of feedlot gain declines. Feeder calf prices also increase as the expected selling prices of finished cattle increase. The price of feeder calves intended for the feedlot decreases when feedlot cost of gain increases or when expected selling prices of finished cattle decline. one representation of price expectations for finished cattle is the live cattle or fed cattle futures market price four to six months in the future. As the futures price increases, prices for feeder calves going into feedlots also increases and vice versa.

A 1,100 pound finished steer weighs 2.44 times as much as a 450-pound feeder calf. It also weighs 1.57 times as much as a 700 pound yearling. Therefore, a $1 per hundredweight increase in the expected sale price of a finished steer could cause a buyer to bid S2.44 per hundredweight more for a 450-pound feeder calf or $1.57 per hundredweight for a 700 pound feeder yearling.

The supply of feeder calves available to go on feed tends to be plentiful in the fall of the year. The supply is much tighter in the late winter and early spring months. Prices for feeder cattle tend to be higher in the spring and lower in the fall because of this Interaction of strong spring demand and shorter supply of calves. The reverse is true in the fall, when we have larger supplies of feeder calves and less demand for calves to be grazed through the winter. Prices for 450-pound calves tends to vary more than the price for 700-pound yearlings, because they weigh less in proportion to a finished animal, and because they are in greater demand for grazing purposes. The seasonal price trend for feeder yearlings tends to more closely follow the seasonal price trend for finished cattle. About the only place yearling cattle can go is to the feedlot to be finished or directly to slaughter. Prices for feeder cattle are higher on markets close to the large feedlots of the Southwest and western Corn Belt. Prices paid by western feedlots for Tennessee feeder cattle are usually lower because of the cost of transportation, shrinkage and possible death loss incurred in shipping feeder cattle.

Exercise 8:

A. Chart the price of M-1, 500-550 pound Feeder Steers for 30 days.

B. When do prices seem to be highest and lowest?

C. How wide is the price range on a single day?

D. What are some reasons the price range may be wide?

E. From your study of this project manual, tell what you learned about when prices are highest and lowest? What are some reasons for price variation?

MARKETING DECISIONS FOR PRODUCERS OF FEEDER CATTLE AND FINISHED CATTLE

FEEDER CATTLE

Marketing decisions of feeder cattle producers involve answering the following questions. Where to market? When to market? What weight and grade to market?

Where to market? In answering this question one should consider the location of nearby markets and perhaps more distant markets. How do historical prices compare at these markets? What are the costs to sell at each market? Do differences in time (labor), transportation costs, shrinkage and commission costs offset differences in prices between the two or more alternatives being considered? If cattle are being sold on the farm, is the price competitively established or not? The seller must know the market prices for the cattle being offered for sale if selling direct from the farm. The seller must also be more knowledgeable about what the cattle weigh, weighing conditions, sorting the cattle and transportation to the weigh point to accurately evaluate a bid on the farm versus selling through a public auction sale.

When to market? In the cattle business there are almost always willing buyers for feeder cattle at some price. The time to market feeder cattle is a complex and individual decision. Prices are typically higher in the spring. Does this mean everyone should try to market feeder calves in the spring? NO! Spring prices are higher because supplies of calves are smaller. Also individuals purchasing calves to graze through the spring and summer usually have very low out-of-pocket cost-of-gain. However, it costs more to produce a calf for sale in the spring due to greater use of stored feed or hay. Furthermore if everyone tried to produce for the spring market, the large supply of calves would probably cause the price to decline. The decision of when to market needs to be made after evaluating the availability of feed resources cost of those resources and month-to-month price patterns for the grade and weight of feeder cattle being produced.

What weight and grade to market? Beef producers should strive to produce Medium to Large Frame feeder cattle with No. 1 thickness. These calves bring the highest prices in the marketplace. Producers should avoid producing small framed calves, since they weigh less and are discounted heavily in the marketplace. Good management practices such as dehorning, castration and prevention of pinkeye can help calves grade higher and therefore bring higher prices. The weight of feeder cattle to market is based on the production system being used. Cow-calf producers marketing feeder calves at weaning should strive to produce as many pounds as possible from their available forage resources. some producers may choose to background their calves (add 200-300 pounds of weight and market their cattle as feedlot-ready yearlings. At that stage the producer would have a

choice of selling the cattle or finishing them for the slaughter market.

SLAUGHTER CATTLE

Cull beef cattle, namely cows and bulls, are principally sold through auction markets in Tennessee. Order buyers representing meat packers buy these cattle for shipment to meat packers. For beef producers located within reasonable driving distance, a meat packer may buy the cattle direct, probably on a carcass weight basis. Beef producers selling finished cattle in Tennessee may sell them directly to a meat packer, to a dealer or order buyer directly off their farm, through an order buyer to a meat packer or through an auction market. Some producers having smaller numbers of finished cattle may also merchandise them directlY to consumer by working with a local slaughter house.

Where to Market? The decision on where to market should be made based upon the distance to market, the time involved, the expected commission, the expected shrinkage enroute to market and some estimate of the expected price to be received. Cull slaughter livestock may be sold either directly to a packing plant or through an auction market depending on location and preference. Due to the limited number of slaughter plants in Tennessee, marketing of finished cattle is more difficult. Since few cattle are finished in Tennessee there are usually not many of these cattle at an auction market on any given day. Unless a buyer can purchase a load of finished cattle, he or she is confronted with HOW much to pay for them without knowing for sure whether the order buyer is going to get them sold to a packer. It is recommended that producers desiring to sell finished cattle at auction contact their auction market manager prior to bringing the cattle to the market. Finished cattle may be sold to consumers by advertising in the paper or through personal contact. Assistance should be given the buyer in locating a local slaughter plant or locker plant which can cut and package the meat to best suit their needs.

Beef producers selling finished cattle to slaughter plants will usually have to sell on a carcass weight and grade basis. As the cattle reach the optimum slaughter weight, the producer should be very much aware of prices for the different quality grades such as Choice and Select, as well as yield grades for the cattle. Ideally the producer should strive to produce Choice cattle of Y.G. 3 or less, that is yield grade 1, 2 or 3. Choice Y.G. 1 cattle are fairly rare. TO insure that most of the cattle grade Choice, producers should plan to feed to a yield grade of 3. If the cattle have % inch of fat over the middle of their back, they will probably grade Choice. A beef producer should evaluate prices being paid by meat packers for various quality and yield grades. In addition who will pay for the hauling of the cattle and will there be a pencil shrink taken on the cattle (generally 2 to 4 percent)? Pencil shrink is a percentage deduction from the live weight generally 2-4 percent. The size of the discount for Select grade in comparison to Choice, and the size of the discount for Y.G. 4 in comparison to Y.G. 3 is very important in deciding how much finish to put on the cattle. Generally the Y.G. 4 discount is larger than the discount for the Select grade. In addition as the cattle approach Y.G. 4 they are more likely to grade Choice. So, ideally the producer should strive to get the cattle into Y.G. 3 to insure a higher percentage of Choice Without getting them so fat that Y.G. 4 cattle are produced.

When selling finished cattle to a dealer or country buyer, the producer also needs to be

knowledgeable of what the cattle are worth on a dressed basis, as well as what current quotations are for finished slaughter cattle. Prices paid for finished slaughter cattle in Tennessee are generally less than those received at terminal markets such as Omaha. Prices are also less than paid in the large feedlots of the Southwest where many packers are available to bid on the cattle. The producer selling cattle on a live basis needs to evaluate what the cattle would be worth on a dressed basis and approximately what dressing percentage the cattle would have. As a general rule, country buyers and dealers are much more knowledgeable about this than beef producers. They do it every day and make their living that way. Some marketing agencies will help a producer sell cattle at the appropriate weight and grade for a fixed fee. In most instances the cattle actually get sold on a carcass basis to a meatpacker. The marketing agent simply helps the farmer decide what the cattle are worth and when they are ready to market.

When to Market? The decision of when to market finished cattle can best be determined by the date or month that the cattle are placed on feed and the particular feeding system being used. Once cattle are on feed it is not desirable to slow them down and then speed them up to try to hit a particular marketing date. The difference in the buying and selling price has a great impact on whether money is made finishing beef cattle.

MARKET NEWS AND PRICE INFORMATION

Most beef producers like to have some knowledge of what price their cattle will bring before taking them to the market. The same is true for buyers as well as sellers of feeder cattle. Market news gathered and made available to the public is a valuable service provided by the U.S. Department of Agriculture and the State Department of Agriculture. Market reporters gather price data by being personally present to see prices established. In some cases they may obtain prices by telephone with later follow-up to check records for prices actually paid. Two key elements of market news information are knowing where to find it and understanding the terminology used. SOURCES OF MARKET NEWS Telephone--provided by U.S Departments of Agriculture. Toll free number 1-800-342-8206 24 hr.

Local markets -- which buy cattle daily. Radio--usually given at the same time every weekday. Ask your Extension agent which stations carry this report.

Television -- prices paid that day, given in the evening or early morning.

Newspaper -- prices from the previous day. These prices, though helpful, would not reflect prices being paid today. Farm magazines and newspapers--these prices could be from a few days to a few weeks old.

MARKET NEWS TERMINOLOGY

Demand refers not only to a buyer/s desire to possess a certain volume, but also refers to willingness and ability to buy. Demand is good when buyers are more aggressive than usual, or when large or increased supplies

bring prices that are the same or higher. Demand is poor when buyers are less aggressive than usual, or when decreased supplies are selling at prices that are the same or lower.

Supply refers to the quantity available for current day's trading on the market. It includes any carry over from the previous day.

Price refers to specific dollars and cents paid for a given grade and weight selection.

Price Trend -- refers to the direction in which prices are moving compared with prices paid the previous trading session. Five terms used to describe price trends are: · Higher -- used when bulk of sale prices are measurably higher than the previous trading session. · Lower -- used when bulk of sale prices are measurably lower than the previous trading session. · Strong -- used when there is a definite but not quite measurable, indication of higher prices. · Weak -- used when there is a definite, but not quite measurable, indication of lower prices. · Steady -- used when prices have not changed from the previous trading session.

Trading activity refers to the pace at which sales are being made compared with normal activity for that market. The pace can be active, moderately active or slow. · Active means that sales are being made at a more rapid pace than usual for that market. · Moderately Active means that sales are being made at a normal pace for the particular market. · Slow means that sales are being made at a slower than normal pace for the particular market.

Exercise 9.

A) What sources of market news are available in your county? If there is no market news, work with your adult leader or 4-H Extension agent to obtain at least one source of market news for beef producers in the county. If this is not possible, do a demonstration on the importance of market news. This can be presented to beef project groups or groups of beef producers.

(B) Why is it important for beef producers to know sources of and understand market news?

(C) Why is some knowledge of grades important in using market news? Do a radio tape or news article on the importance of market news or an explanation of market prices.

Exercise 10.

Suggestions for talks, demonstrations and exhibits. (Complete at least three.

· Grades of slaughter cattle · Grades of feeder cattle

· Marketing channels for feeder cattle, slaughter cattle or purebred cattle

· Why it is important to be careful in hauling cattle

· Factors that affect prices of slaughter cattle _____ cattle

· Types of shrinkage and what causes shrinkage

· Sources of market news information

References

Gilliam, Henry C. Jr., The U.S. Beef Cow\-Calf Industry, ERS Report 515, United States Department of Agriculture, Washington, D.C.

Grandin, Temple, Livestock Trucking Guide, Livestock Conservation Institute, South St. Paul, Minnesota

Fowler, H. stewart, The Marketing of Livestock and Meat, The Interstate, 1961

Futrell, Gene A., Estimating Returns from Feeding Cattle in Iowa, M-1229, Iowa State University, Ames

Futrell, Gene A., Editor, Marketing for Farmers, St. Louis, Doane Wester, 1982

Tennessee Department of Agriculture, Tennessee Crop Reporting service, Tennessee Agricultural Statistics Annual Bulletin, 1988, Nashville, Tennessee

Project Record Form -- Marketing
4-H Beef Project

NAME_____ADDRESS_____

COUNTY_____CLUB_____

AGE _____

Briefly describe what you learned from the exercises and printed material in this unit. Give a brief summary of the activities you did in each area.

Market Classes and Grades for Feeder Cattle and Finished Cattle:

Marketing Channels for Feeder, Purebred and Slaughter Cattle:

Marketing Costs:

Market Prices for Slaughter Cattle and Feeder Cattle:

Market News or Price Information:

Market Decisions for Producers of Feeder and Finished Cattle:

Date	Title of 4-H Talks, Demonstrations or Exhibits	Where Made	Number in Audience