



BEEF CATTLE TIME

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Genetically Improving the Marketability of Feeder Cattle

*F. David Kirkpatrick, Professor
Animal Science*

The beef cattle industry consists of several different segments that all use the same genetic raw material determined at conception. These segments are (1) purebred breeder, (2) the commercial producer, (3) the backgrounder or stocker operator, (4) the feeder, (5) the packer, (6) the retailer and (7) the consumer. They are interdependent because each affects cost of production, performance and value as well as consumer acceptance and desirability of the product.

The challenges to the cow-calf producer are to maintain a productive cow-herd suited to the environment and to produce feeder cattle that meet the needs of all segments of the beef industry. The producer must be aware of factors that determine value and demand beyond the weaned calf stage.

Increasing demand for a product increases the marketability and value of that product. "Marketability" may be defined as "in demand by buyers, worth having or a product having a desirable outcome." Cow-calf producers influence the marketability and/or value of feeder cattle as soon as they select breeding stock to produce feeder calves.

Feeder cattle value is influenced by a number of traits or factors. These include sex, uniformity, weight, condition, muscling, frame size, lot size, fill, breed or cross, health and predicted outcome. The predicted outcome is an estimate of an animal's expected value at the next level of production or segment of the industry. The prediction is based on the previously listed factors. Documented genetic background and herd health programs improve the accuracy of the prediction through all segments of the industry.

The opportunity to improve traits using genetics rests in the hands of the purebred breeders and commercial producers. The purebred breeder determines the matings that produce the breeding stock used by

the commercial producer. He/she is responsible for the genetics used in the overall beef industry; and in order to fulfill that responsibility, he/she should have a working knowledge of the entire beef industry and how those traits influence each segment. The commercial producer must use the different kinds of genetics provided by the purebred breeder to optimize production within a given set of resources to contribute to the overall beef industry. Selection is the primary tool available to purebred breeders and commercial producers for making genetic improvements or directional changes in value added feeder calf traits.

Traits of Importance to Different Segments of the Beef Industry

Segment	Traits
Consumer	Tenderness, taste, flavor, food safety, price/value, consistency, portion size
Retailer	Shelf life, fat to lean ratio, portion size
Packer	Dressing percent, quality grade, yield grade, conformance
Feeder	Health, gain, feed efficiency
Backgrounder	Growth on forage, health
Cow-calf producer	Reproduction, growth, maintenance cost

The beef industry is rapidly moving into a specification industry in which the different segments reward cattle with documented genetics, management and health records. Non-conforming animals and carcasses are less tolerated and, in fact, discounted in price relative to the acceptable level. With the exception of health and food safety, all the traits affecting the different segments of the beef industry are influenced by genetics.

The specifications must be defined if a commercial producer is to select for them and meet the demands of the industry. Defining market targets includes establishment of both carcass and live characteristics. Some targets reward carcass quality grade, some lean meat yield

and some use a balance between quality grade and lean yield.

Industry Targets for Beef Carcasses

Carcass Traits	Industry Target	Premiums (discounts)
Carcass weight	650 to 850 lbs.	(<600 & > 950)
Quality Grade	Select or higher	> Select (< Select)
Yield Grade	1 to 3	(>3.9)
Fat thickness	< 0.5 in.	
Rib eye area	11 to 15 sq. in.	

National Beef Quality Audit Averages

Trait	1991	1995	2000
Carcass wt.	759	748	787
Fat thickness, in.	0.59	0.47	0.49
Rib Eye area, sq. in.	12.9	12.8	13.1
USDA Yield grade	3.2	2.8	3.0
% Prime	2.2	1.3	2.3
% Choice	52.7	46.7	49.1
% Select	36.9	46.7	42.3
% Standard	7.6	4.6	5.6

Both the 1995 and 2000 Beef Quality Audits (BQA) revealed that the number one issue facing the industry was low overall uniformity and consistency of cattle and beef. The 2000 BQA rated inappropriate carcass size and weight the second most pressing issue followed by inadequate tenderness, insufficient marbling, reduced quality grade, excessive external fat and inappropriate USDA Quality grade mix. All of these top seven issues are influenced by genetics of the calf.

Low overall uniformity and consistency can be a result of too many breeds involved in the cow-calf industry and the mongrelization of crossbreeding systems. A lack of uniformity in the cow herd from the standpoint of both breed composition and biological type can also contribute to the lack of uniformity.

Commercial producers can implement some practices to improve the consistency of their cow herd and its calf crop. Use visual selection to cull the largest- and smallest-framed cows in the herd. Eliminating extremes in both muscling and frame size will make the herd and calf crop appear more uniform. In multiple sire herds, use bulls of the same breed that are similar in frame size; muscling; and birth, weaning, maternal and yearling EPDs. This also produces prospective replacement heifers that are more uniform in size, maintenance requirements and maternal traits. Try to use bulls that will produce calves of the same color as that makes the calf crop look more uniform. Developing a defined, short calving season will also make weaned calves more similar in age and weight and contribute to uniformity of the calf crop. Try to obtain both feedlot and carcass data on the calf crop to help you establish a benchmark for productivity in your herd and to assist you in selection and culling decisions.

Inappropriate carcass size and weight could be a result of the vast differences seen in frame size of both cows and bulls. Frame size is a highly heritable trait

and directional change can be achieved quickly through appropriate mating programs.

Carcass traits like fat thickness, marbling and rib eye area are also highly heritable and can be changed rapidly by paying attention and using carcass EPDs in a sire selection program. Many breed associations now have ultrasound EPDs for carcass traits. These allow prospective buyers to identify a bull's genetic value for a particular carcass trait.

In developing a genetic program for value-added feeder calf production, it is important to practice balanced trait selection for sire selection, replacement heifer selection and cow culling. Don't forget the most important characteristics of the cow herd are reproduction and production efficiency. Selection for extremes in any one trait or traits that greatly alter the available environment necessary for reproduction may not be cost effective. More emphasis on balanced trait selection with reproduction, growth and carcass considerations will lead to utilization of multi-trait selection index EPDs that are available from some breed associations.

The Beef Cattle fIRM Record Keeping Program Updated

*Clyde Lane, Jr., Professor
Animal Science*

Health records have been added to The Beef Cattle fIRM record keeping program. This software update will allow producers to keep all necessary health records in addition to production records.

Individual records on each animal on the farm are becoming more important. Being able to evaluate each animal's individual performance has become critical in keeping the beef operation profitable. As more emphasis is being placed on keeping detailed records on health treatment of animals, The Beef Cattle fIRM record keeping program is ready to provide that assistance. Health records kept in The Beef Cattle fIRM meet the record keeping requirements of the Tennessee Beef Quality Assurance Program.

The new health records section is easy to use. Producers can enter individual health treatments or apply the same health treatment to a group of animals. You can tailor reports to provide both individual and group health records. Reports needed for the Tennessee Beef Quality Assurance Program can also be easily printed.

Don't forget that The fIRM can still be used to determine which cows need to be culled and which heifers should be kept as replacements. By looking closely at the records, a producer can determine which cows have reached their peak production and are starting to slow down.

The selection of the herd sire is always a difficult decision. Records from The fIRM can be used to determine current levels of production so the appropriate bull can be selected. For example, the records can be used to determine whether selection should emphasize birth

weights, weaning weights, yearling weights or other production criteria.

Getting a copy of this software is easy. An order form for an upgrade or initial purchase of The Beef Cattle FIRM is available at your local University of Tennessee Extension office or by contacting Dr. Clark Garland, UT Extension, Agriculture Economics, 2621 Morgan Circle, 314 Morgan Hall, Knoxville, TN 37996-4518 or (865) 974-7271.

If you already own the The FIRM, you can upgrade the Windows version of the program for \$25. Individuals still using the DOS version can upgrade for \$75.00. Upgrade pricing is set so that a producer will not have more invested in the program than a new copy of the software would cost. You can purchase a new copy for \$125.00.

Accountability and profitability are becoming more important in the beef cattle business. The Beef Cattle FIRM record keeping program can assist in both areas. Don't let another day pass before ordering your copy of The Beef Cattle FIRM record keeping software.

Plan Ahead for Value-Added Marketing Opportunities

*Emmit L. Rawls, Professor
Agricultural Economics*

Many cow-calf producers are cashing in on record prices for feeder calves and selling them right off the cow. However, they may be leaving dollars on the table by not considering the marketing opportunities for preconditioned calves. With the increased value of calves, buyers take on the risk of greater financial loss if the animal gets sick or dies.

Preconditioning programs significantly reduce the incidence of both sickness and death loss as well as add value to the calves. Buyers have stepped up their willingness to pay higher prices for calves that are less likely to get sick or die in the feedlot. Many producers are asking how much they will be paid for the extra cost of preconditioning calves. With the low cost of feed relative to calf prices, producers can pay themselves by adding weight to the calves during the preconditioning period of 45 to 60 days.

So why does one need to plan ahead for summer marketing of fall calves or fall marketing of spring calves? There are a number of preconditioned cattle sales around the state. They have varying requirements regarding vaccinations (brand specific in some cases), minimum weaning periods prior to sale, feeding specifications and de-worming requirements. In order to give all vaccinations at least 30 days before sale time, some producers may need to start 60 to 90 days before sale time, depending on product label and sale date.

If calves are to be weaned, are facilities available to wean the calves? Is a system available to wean the calves with minimum stress, i.e. bawling, walking and losing weight? Fence-line weaning has been shown to

greatly reduce the stress on calves at weaning. Some producers have also had great success with the plastic nose pieces that prevent nursing. These can be inserted when calves are given a pre-weaning vaccination a few weeks before the weaning date. Is a system available to allow calves some creep feed 10 to 14 days prior to weaning? This can be either a feeder, if available, or a gap in the fence with access to limited feed.

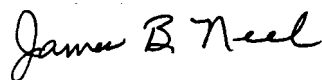
Producers considering preconditioning their calves should contact their Extension agent or market operator to see when and where sales are planned and what the requirements are. A listing of sale dates through June is posted on the Internet at <http://picktnproducts.org/cattlegrading/schedule.html>. Fall sale dates should be posted by late spring.

There are several different preconditioning programs in the state. Why are there so many? Most are based on the Southeast Pride Program, which was developed by southeastern states to simplify and combine a number of individual state programs. To my knowledge, the Sweetwater Southeast Pride Plus sale and the Tri-County Cattle Association at Rock Hill, South Carolina, are the only sales using the Southeast Pride Program. The desire to have something different and unique, as well as old-fashioned competition, has brought about the number of different programs in the state. A list of known locations selling preconditioned calves includes Beef Advantage Sales at Cookeville; Guthrie, Ky.; Savannah and Sweetwater. Other sales are at Athens, Dickson, Fayetteville TLP, Knoxville, Lafayette, McMinnville and Sweetwater Southeast Pride Plus, Wilson Livestock Network and the Lower Middle Tennessee Cattle Association sale managed by Tennessee Livestock Producers offer video board sales.

Another facet of feeder cattle marketing is beginning to have value in the marketplace. Verifying the age of calves and their origin or source is becoming more important to buyers. This is usually not possible for stocker/backgrounder operators who put together calves for later sale in load lots. However, producers of home-raised calves sold either in large one-owner groupings or commingled calves sold in special sales can verify age and identify calves if they keep sufficient records. Producers might be asked to sign a document indicating the oldest calf or calving period. This is becoming important for two reasons. First, since early 2004, beef packers have been asked to examine the teeth of animals (called dentition) to determine if a third incisor (adult) tooth is present. If so, the animal could be over 30 months of age and would need to be processed separately to remove specified risk material, i.e. backbone, brains, eyeballs, etc. Since this results in added costs to the packer, these cattle might be discounted. Verifiable age records might allow an animal less than 30 months old but with a third incisor to pass the inspection and be sold without a discount. In addition, the agreement reached with Japan last fall was to allow beef from cattle under 21 months of age into Japan. When that

beef is finally allowed, young cattle will likely be more valuable to some buyers. So, keep good records and identify your calves in order to verify age if necessary or required. Furthermore, if the Country of Origin law (COOL) takes effect in September 2006, a verifiable audit trail may be needed for calves born in 2005 that are still in the supply pipeline.

The marketplace is changing rapidly. Plan ahead and be prepared for those changes – they can add value to your calf crop!



James B. Neel, Professor
Animal Science

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From:

Leader/Agent

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