

# Where Are We Headed?

Commentary by **Harlan Ritchie**

**T**he trends and projections discussed here are not mine alone. They represent a consensus of numerous analysts in every sector of the beef industry, from seedstock to consumer. Following are some trends likely to occur over the next few years and into the next decade. They are not meant to be in order of importance.

## Global trends

**Increased demand.** Global markets will become increasingly open, assuming that developed nations — the United States and Canada included — do not adopt extreme protectionist policies. As developing nations become more affluent, their first demand is for more protein in their diets, especially animal protein. Driven by rising demand, total world meat production is projected to increase 13% by 2013. Beef production is expected to

parallel this overall production increase.

**Identification, verification.** Adoption of a system for individual animal identification (ID) and source verification will help keep the U.S. competitive in the global marketplace. Implementation will not be easy, but it is certain to happen.

**Consolidation.** Like it or not, industry consolidation will continue to occur, especially in the retail, packing and feedlot sectors. Today, the top five supermarkets account for 50% of total supermarket sales. By 2010, their market share could increase to 75%. The top 30 cattle-feeding companies account for about 40% of the fed cattle and could account for more than 50% by 2010. More than 70% of fed cattle are processed by the top three packers. By the next decade, the top three packers could process 80% of fed cattle.

**Integration.** Communication and coordination between the various industry segments will increase, and we will become more vertically coordinated.

This will need to happen in order to remain competitive with other proteins. However, our industry will not become totally vertically integrated, like poultry. No single entity would be willing to invest the amount of capital required to integrate from seedstock all the way downstream through retail. The capital needed to do so is estimated at more than \$6 billion.

## Marketing trends

**Branded beef.** Fed cattle marketed outside of the spot/cash market could increase from the current 50% to 80% by the next decade. Branded beef currently is estimated to be about 20% of the market; by the next decade, that could be 60%. Today, most branded beef products carry national brands. In the future, supermarkets will want more of the branded products in the meatcase to carry their private store labels.

**Tenderness.** Despite previous failed attempts, technology will develop



instrumentation capable of accurately assessing beef tenderness at line speed in the packinghouse. This means that something in addition to marbling can be used as an indicator of tenderness.

This will not diminish the value of marbling, because marbling is highly correlated with juiciness and flavor. Today, the demand for well-marbled beef (mid-Choice and up) accounts for about 25%-30% of the market. This is not likely to change. However, the value of "guaranteed tender" USDA Select will increase.

**Case-ready.** Improved packaging technology will encourage supermarkets to offer more case-ready beef products. Currently, case-ready meats account for about 30% of total units in the retail meatcase. Case-ready processing, where nearly all the fat and bone is left on the packinghouse floor, will enhance the value of cattle with higher red meat yield.

**Nutrition.** Nutrition fads come and go. The excitement over low-carbohydrate diets will give way to a new fad. However, demand for beef will remain strong. Regardless of trends, foods need to taste good or they won't have staying power in the marketplace. The good news is that beef's No. 1 attribute is taste.

**Niche markets.** Specialty/niche food markets are growing at an exponential rate. Once dismissed as a passing fad, the natural/organic market is growing at the remarkable rate of more than 20% annually. There will be an increasing number of producers networking in various ways — partnerships, alliances, cooperatives, etc. — to produce beef for these specialty markets.

### Production trends

**Efficiency.** Efficiency of production will improve throughout the beef value chain. This will help make beef more competitive with pork and poultry.

Maintenance accounts for 70% of all feed energy expended in producing beef, and only 30% of feed energy goes to productive processes such as growth and lactation. An astounding 50% of total feed energy is expended at the cow herd level. Animal scientists recently developed an expected progeny difference (EPD) for cow maintenance. This will enable producers to put selection pressure on the cost of maintenance.

**Heterosis.** Because traditional crossbreeding systems are cumbersome to manage, especially in smaller herds and in intensive rotational grazing systems, there is a trend for more commercial producers to utilize heterosis by simply rotating unrelated F1 hybrid bulls composed of the same two breeds (AB × AB). This can result in a 12% increase in pounds of calf weaned per cow exposed above the average of the parental breeds. Rotating F1 bulls that have only one breed in common (AB × AC) can result in a 16% increase. Because of the increasing demand for hybrids, seedstock breeders will respond by offering more hybrid bulls to their commercial customers.

**Customer service.** Today, nearly everyone has equal access to outstanding beef genetics. Customer service will become the differentiating factor in the seedstock business. "Full-service genetic providers" — artificial insemination (AI)/genetic companies, as well as individual breeders — will form the new generation of breeders. These breeders will have the ability to analyze the production systems of their customers, determine the genetic package that best fits their needs, and guarantee to produce that product consistently at an appropriate price.

**Animal welfare.** There will be an ever-increasing pressure on food companies to develop animal welfare plans to assure consumers that animals producing meat,

milk and eggs are humanely handled and cared for.

**Other issues.** Other important issues facing the industry include land use, the environment and government regulatory policies. These issues will continue to be a challenge for the industry into the future.

### Technology trends

**EPDs.** Collectively, breed associations now provide EPDs for more than 20 different traits. There is a need for these traits to be combined into economic selection indexes that are more user-friendly. Some associations, including the American Angus Association, have developed economic dollar indexes; others are planning to do so in the future.

The National Beef Cattle Evaluation Consortium (NBCEC) will be using genetic markers validated in the National Cattlemen's Beef Association (NCBA) Carcass Merit Project to enhance the accuracy of carcass EPDs. DNA tests for carcass traits are also being commercially developed. There will be an increase in other diagnostic tests marketed in the next few years.

**Sexed semen.** In the near future, sexed semen will see increased use. Sperm can now be sorted into male and female cells with 85%-95% accuracy, but the process is still too slow and expensive for widespread application. Nonetheless, improved technology will make the process more efficient and affordable.

**Cloning.** Cloning holds great promise for genetic advancement. However, early embryonic mortality, late-term abortions and low calf-survival rates are problems yet to be resolved before it can see widespread use.



**Editor's Note:** Author Harlan Ritchie is a distinguished professor of animal science at Michigan State University.