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December 2001

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Dolezal, H. Glen, "Packing Industry Innovations As We Move to the Future?" (2001). *Range Beef Cow Symposium*. 103.

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Proceedings, The Range Beef Cow Symposium XVII
December 11, 12 and 13, 2001, Casper, Wyoming

PACKING INDUSTRY INNOVATIONS AS WE MOVE TO THE FUTURE?

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INTRODUCTION

The beef industry has overcome numerous challenges in the past and has adopted and implemented new and innovative ideas to improve beef demand. A key change in the beef industry philosophy has been the switch from a mindset of commodity production to one of consumer focus for product safety, quality, convenience, and price point. The packing industry is well known for adopting technology. As we move into the future, technological advancements will continue in food safety and processing, as well as vision grading, case-ready solutions, value-added products, and product quality. Hopefully, these improvements will be made in cooperation with producers across all industry sectors instead of merely after the fact (post harvest). Cooperation and information sharing is key to the long-term viability of the beef industry.

I offer 10 key considerations for the beef industry as we progress into the future. Some of the following points will be modified in the short-term, while others will be ongoing for a longer period of time.

KEY CONSIDERATIONS

- 1) **Food Safety.** Research and additional expenditures will continue to address food safety issues. Speed of testing and detection levels have improved. I envision that irradiated beef will gain in popularity for some specific markets. All industry sectors must embrace and contribute to food safety. More information and interventions are needed pre-harvest for livestock, facilities, and equipment.
- 2) **Tenderness.** The 1990 and 1999 National Beef Tenderness Audits conducted with Check-Off dollars revealed that either 1 out of 4 or 1 out of 5 beef middle meat steaks are less than desirable in tenderness and overall eating satisfaction. Each segment of the beef industry may influence (either positively or negatively) the palatability of beef. On-line instrumentation will be further developed to objectively measure tenderness for marketing purposes and producer payments.
- 3) **Yield Grade/Red Meat Yield.** The beef industry still produces overfinished carcasses (Yield Grade 4's and 5's) despite sizeable grid discounts. Currently, closely trimmed (1/4 inch residual fat thickness) boxed beef serves as the commodity standard trim. With more stringent trim specifications (1/8 inch and

fully denuded) gaining in popularity, look for discounts to increase in magnitude and/or new benchmarks to be established (vision yield grade; YG 3B). The goal of the beef industry remains a Yield Grade 2.

- 4) **Weight.** The 1991, 1995, and 2000 National Beef Quality Audits have recommended “controlling the weight and size of carcasses and cuts” as a key objective for the beef industry. However, efficiencies of production and grid marketing have “out-weighed” consumer acceptance and demand relative to weight. Future adjustments will be made in weight-based grid discounts to accommodate the beef industries move to case-ready solutions and consumer price points.
- 5) **Muscling.** Extremes in muscling, either too light or too heavy, cause problems for the industry. Researchers (Dunn et al., 2001) concluded that 12 to 14 square inch ribeyes were ideal for food service and retail venues. Extremely large ribeyes (15 square inches or larger) are more variable in palatability attributes (tenderness, juiciness, and flavor) and offer less flexibility to meet portion size, packaging, and/or price-point requirements. Ribeyes that are too small (less than 10 square inches) cause similar problems in portion size and packaging. Carcasses with weights that exceed 899 pounds and ribeyes that hit the target (12 to 14 sq. in.) are either overfinished (Yield Grade 3B’s, 4’s, or 5’s) or dairy-like in muscling (high % bone).
- 6) **Marbling/Quality Grade.** The growth and demand for branded beef programs, especially Premium Choice programs, remains strong. Marbling or “taste fat” is paramount in counteracting the harshness of cooking and in contributing to the richness of flavor. I know of only two ways to bypass marbling and still ensure eating satisfaction - - a) moist heat cookery (i.e., stewing) or b) enhanced beef (i.e., marination; adding water and flavorings). Hopefully, the beef industry will not follow the pork industry’s path where enhancement is the only option remaining.
- 7) **Shelf Life.** Shelf life of beef products has a major impact on retail margins. Case-ready beef solutions in either high or low oxygen atmospheres require changes in management, inventory, and product display. Best practices (i.e., feeding of vitamin E; rosemary additives) offer alternatives to improve the color stability of beef at retail.
- 8) **Vertical Coordination.** Alliances, networks, and other marketing arrangements are growing in popularity. These agreements offer more opportunities to share information, verify and trace-back production practices, and expand best management practices (i.e., eliminate injection sites; vitamin E feeding; targeted production) to produce a ratable supply with consumer focus. Agreements will continue to increase and will extend across more industry segments with opportunities to include production systems of all sizes (large and small) for both domestic and international markets.

- 9) ***Management of Individuals.*** To date, the commercial beef industry has managed on “averages” to track pen- or lot-basis production and carcass performance. In the future, commercial cattle producers will manage more like seedstock breeders do today - - on an individual-animal basis. Electronic identification, data availability, and computer software will aid decision making to reduce variation and discounts.
- 10) ***Genetic Tools.*** Hopefully in the not too distant future, new genetic tools will be available to make breeding, management, and marketing decisions for optimum production efficiency, product quality and yield, and consumer satisfaction.

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