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Abstract

The grading of beef has become a controversial issue, with both government and the cattle industry working to ensure uniformity. The author contends that meat quality, and the resulting tenderness, juiciness, and flavor desired by consumers, is being threatened by such pressures and actions.

Keywords

Berkowitz, Beef, Beef grades, Good, Choice, Prime, USDA, Marbling, FIU

The “Beef” About Beef

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The grading of beef has become a controversial issue, with both government and the cattle industry working to ensure uniformity. The author contends that meat quality, and the resulting tenderness, juiciness, and flavor desired by consumers, is being threatened by such pressures and actions.

The 25-year span prior to 1974 was the golden age of beef in the United States, with consumption of the meat doubling within that period. America’s favorite pastime became eating, and its favorite entertainment a meal out. “Quality in beef” was not a phrase, but a way of life. When it came to beef, the public was overwhelmingly interested in palatability and how it suited their tastes.

The beef industry responded to the ever-growing demand for beef by producing meat with a track record for palatability—tender, juicy, and flavorful. The animals which returned the most satisfaction were deep, full, early maturing, and well-marbled. Marbling was an accepted, recognized requisite for palatability. Animals were fully fed on grain or corn to establish the necessary finish. At the time of slaughter they were finely textured and firmly fleshed.

A Crisis in the Industry

In 1974 there was a crisis caused by the beef industry. Greed had shown its ugly face. Inventories surpassed demand. Prices dropped. Profits evaporated. Herds were liquidated at tremendous losses. Quality was poorer and failed to satisfy the consumer’s palate. The cattle industry went to the government for help, and in the September 11, 1974, Federal Register, the Department of Agriculture proposed a regulation changing the standard for grades of carcass beef or slaughter cattle. Recommendations for the proposal came from powerful segments of the cattle and beef industry.

The proposal for a change involved the downgrading of beef quality grades which were established as a tool for marketing and quality evaluation. Restaurateurs, retailers, and consumers, in particular, were not expert in their analysis of quality. However,

they knew what they liked. One quality grade of beef, USDA Choice, met the criteria of most consumers. USDA Prime, which was more expensive and less available, also satisfied the appetite. Lower quality grades such as USDA Good and Standard were in less demand.

Proponents for a change in grading said that the proposed downgrading would result in lower-priced Choice or Prime beef at the high palatability levels. Despite protests from consumer, restaurant, and meat purveyor groups, the plan won approval from the Department of Agriculture in 1976. A large percentage of what had been Choice was qualified for Prime, and much of what had been Good became Choice. The new Choice consisted of much beef which had been unacceptable to the consumer prior to 1976.

The minority with vested interests won. The majority, the U.S. consumer, lost. Producers enjoyed a higher profit for beef which had previously been discounted. The cost of production decreased with less feeding time. The consumer paid a higher price for lesser quality. Better quality was less available as the beef industry saved money by selling the Choice stamp and fed cattle to meet the minimum requirements of the grade, which was previously USDA Good or ungraded beef. The traditionally poorer eating breeds such as Brahmans, Charolais, and Holsteins now qualified as Choice.

Consumers expressed their displeasure by buying less beef. Production fell and costs increased. Prices rose and food service suffered economic setbacks. Retail sales of beef dropped.

Cattlemen analyzed the situation differently. Their opinion was that consumers were turning away from cholesterol fats and demanding leaner beef, which, in the lower quality grades, was always available. If consumers demanded this type of beef, they never reflected the fact in the volume of their purchases. Would this leaner beef have better satisfied the customer if it had been graded Choice and sold at a higher price?

Grading Rules Proposed

The cattle industry, a victim of its own failures, hoped for another bailout by government, and in 1981 published a document entitled "Proposed Rules for Standards for Grades of Carcass Beef and Standards for Grades of Slaughter Beef."¹ It was the same tune with slightly different lyrics. The proposal was supported by various segments of the beef industry with vested interests who would profit from a change. The end result would have been a further prostitution of quality grades to the detriment of consumers and the food service industry. What had been Good prior to 1976 would make up the bulk of Choice. What had been the mid-point of Choice would become Prime. What had been Prime would virtually disappear from the market. The cost of producing animals would be dramatically lower. The profits resulting from a higher percentage of Choice would be

far greater for the cattlemen. With less feeding, weight ranges of dressed cattle would drop and costs at packing houses for slaughter, fabrication, and packaging would increase. These increased costs would be passed on to the consumers. Once again there would be even poorer quality and higher prices.

The meat industry contended that some new research and technology proved that marbling was being over-emphasized as an eating quality of beef. Previously marbling had been accepted as a primary necessary characteristic of beef palatability. Industry spokespersons stated that there was increasing evidence that consumers wanted leaner beef, but they failed to cite percentages. They also said that cattle feeders tended to overfeed or over-fatten to make the Choice grade, with the result of an over-production of fat yield grade 4 and 5 cattle, which were undesirable and discounted. (Were yield grade 4 and 5 cattle the result of over-production and the holding back of cattle because of market price?)

There was new research, a study entitled "An Evaluation of the USDA Beef Carcass Quality Grade Standards," which was funded by the U.S. Department of Agriculture, the Texas Agricultural Experiment Station, the Texas Cattle Feeders Association, the Southwestern Meat Packers Association, the King Ranch, Inc., and the American Brahman Breeders Association.

Portions of the study were conducted by the Texas Agricultural Experiment Station, College Station; Colorado State University, Fort Collins; Iowa State University, Ames; and the USDA Meat Science Research Laboratory, Beltsville, Maryland. A report on the study was prepared by the Meats and Muscle Biology Section of the Department of Animal Science at the Texas Agricultural Experiment Station, Texas A & M University, College Station. The National Cattlemen's Association and the National Meat Association were active in the campaign for the proposed grading change but were not named as participants or supporters of the study.

The underlying purpose of the study was to prove that leaner, less marbled beef was as palatable as more marbled beef and that the leaner beef should be upgraded, particularly USDA Good to Choice. Some of the Good referred to could have been USDA Standard prior to the grading change of 1976.

Palatability Not Proved

The study did not prove, however, that leaner beef was as palatable. Some of its statements confirmed the fact that quality grades were indicative of palatability. The study also reported: "Across the complete range of USDA maturity and marbling scores, higher marbling was indicative of increased probability of obtaining loin steaks of 'desirable' palatability." Data also suggested that "across the complete range of USDA maturity and marbling scores,

increased marbling is indicative of increased probability that a steak will be flavorful, juicy, tender, and desirable in overall palatability."²

K.B. Jones, in a 1968 study, "Charolais vs. Devon and Hereford," stated that Charolais and other leaner breeds were deficient in meat quality. Findings were based on the fact that the absence of marbling could adversely affect tenderness, juiciness, and flavor.³

A common flavor constituent in meat is related to the nitrogenous and non-nitrogenous factors it contains. These are largely water soluble and are contained in the meat tissues. Fat, however, accounts for a greater share of the flavor and, specifically, gives desirable flavors.

Fatty body tissues are from 15 to 50 percent moisture. Thus a piece of meat with good marbling and fat cover can be cooked by dry heat (roasting or broiling) much better than a lean piece of meat. The fat protects the meat, acting as a basting medium as it melts, and frees fat and moisture.⁴

Much supporting research and many statements have given credence to the importance of fats in beef and the relevance of fats to quality, quality grades, and palatability.⁵

The study, "An Evaluation of the USDA Beef Carcass Quality Grades," was initiated and supported as the base upon which to build a case for the changing (downgrading) of quality grades. It did not serve its purpose.

Results Not Meaningful

The procedures and methodology used in the study were not conducive to obtaining results which were meaningful. Some questionable procedures are as follows:

1. Primals, from which loin steaks were cut, were aged for a minimum of 10 and a maximum of 14 days. Aging temperature was controlled between 30° F to 34° F. Aging action is inhibited in that temperature range, especially at the 30° point. Beef is generally aged at 34° F to 38° F for more tenderness and flavor.

2. Before freezing, beef was double wrapped in polyethylene-coated paper, which does not adhere to all surfaces of meat. There is the possibility of deterioration because of dehydration. A better method would have been vacuum packaging, generally available for frozen food service portions.

3. Beef was frozen prior to testing, which reduces palatability levels. Most retail and food service operations utilize only fresh products, not frozen.

4. Steaks were cooked to an internal temperature of 158° F for evaluation by the taste panel. Study researchers set a standard of 140° F for rare and a 176° F for well done.

The most popular degree is medium rare. A steak at 140° F is considered medium to medium well done; at 158° F, well done; at

176° F, overdone. These temperature standards are supported by a number of authorities.⁶ Beef cooked well done to 158° F could not be evaluated for tenderness, juiciness, and flavor, since it tends to be dry, stringy, tough, and flavorless.

Researchers for the study did not simulate home or food service atmospheres or procedures as follows: Research was carried on in the narrow confines of sterile laboratories; beef was not properly aged, was improperly packaged, and was frozen, not fresh; and meat was cooked to a point where palatability evaluation was not possible.

The researchers straddled a fence when coming to conclusions; there were as many findings against a grading change as for it. Previous research was not utilized and results of the study indicated that perhaps findings were based on pressure, not reason.

The proposed change was not adopted due to the combined efforts of the majority: the consumers, food service operators, food service suppliers, and others. It might have been only a temporary victory. The beef interests will try again once more, writing renovated lyrics for the same old tune.

In the meantime, a new unpublished piece of research, the "Houston Study," proves that consumers prefer, and will continue to prefer, beef which is palatable, that is, tender, juicy, and flavorful.⁷ They want the beef reasonably priced but will pay more for products which are better and suit their tastes. Taste panels preferred the higher grades of beef with the additional marbling required to qualify for the grade. A high percentage of panelists stated that they would not buy beef at any price if palatability was not to their liking.

There is more at stake than a tender, flavorful, juicy piece of beef. Government, industry, and other guardians of uniformity are continually trying to make products collectively and invariably economic and beneficial for all. Such governmental and industry actions have already resulted in lesser quality and value. American consumers should have the inalienable right to make their own choices based on their desired level of quality and affordability.

Attempts to make changes in the grading of beef could result in the loss of tenderness, juiciness, and flavor in meat. Such deteriorative actions could go on *ad infinitum* until beef grades and quality would be so reduced that they would have little meaning.

Footnotes

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