BEEF GRADING AND IMPERFECT COMPETITION

V. James Rhodes

INTRODUCTION

In September 1974, the U.S. Department of Agriculture announced that it planned to make major changes in its grading of beef. The changes would redefine criteria for eating quality, particularly requiring less marbling for each grade.

The announcement was strategically timely: consumers had been restive over what they regarded as high prices for beef, while the poor 1974 corn crop made it economical to produce less fat in the beef carcass. Moreover, meat packers and many cattle feeders had been demanding a grade revision which would permit shorter feeding, less waste fat and lower production costs [3, 4, 10].

An intriguing question for the agricultural economist is whether the competitive process works in such a fashion that this grade revision is essential or even helpful to the asserted aims. Those aims included stretching short feed grain supplies of the 1974 crop year and encouraging more efficient production of beef in the long-term. We need concern ourselves with only the long-term objective. Since the grade change was not achieved during the 1974-75 crop year, the short-term aim has been lost.

THE REVISION

The two most important value-determining characteristics of beef are generally agreed to be (1) the yield of salable meat from a wholesale carcass or primal cut to the packer and retailer, and (2) the eating qualitites of the beef for the consumer. Since 1965, there has been a dual grading system which attempts to measure these two value-determining characteristics by two independent scaling techniques. The yield grade estimates salable percentage at retail of the carcass. The eating quality is estimated by a quality grade based upon appraisal of certain meat characteristics — chiefly marbling, conformation and maturation — believed to be correlated with eating characteristics [20].

More important features of the proposed revision are:

(1) reduction of marbling requirements for Choice grade by almost one degree (on a 9 degree scale) for fed cattle of the ususal maturity. The magnitude of the change is so small as to be barely discernible to the inexperienced eye;
(2) similar changes in marbling for Prime and Standard, and a smaller and more complex change for the Good grade;
(3) elimination of conformation as a quality grade characteristic;
(4) a new requirement that any officially graded carcass must be dual graded rather than marked with either grade alone.

ANTICIPATED IMPACTS

To the cattleman and packer, changes toward leaner minimum boundaries for the grades, especially for high volume Choice, seem obviously consistent with the announced objective of producing leaner cattle in 1974-75 economy of scarce feed grains. The reasoning seems straightforward. Since cattle could make the new Choice grade with less fat,[1] and since fat

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[1]Both the lowering of marbling and the elimination of conformation will reduce fatness of cattle meeting the minimum grade requirements.

is a function of length and amount of feeding, feeders would then be able to shorten feeding.

The agricultural economist, however, may have second thoughts. Grades function as a communication device in the market. One should examine the demands of buyers to understand forces at work in the market place. If buyers (consumers, retailers and food service operators) don't want these leaner cattle, which would be transferred over the line from Good to Choice (or Choice to Prime) by revised standards, then the ultimate result is confusion rather than communication. Perhaps buyers may feel so strongly that quality has been depreciated that they may institute private specification systems which, in effect, restore the old grade boundaries. On the other hand, if buyers are ready to move to a leaner beef because of its comparative costs, then why wouldn't they adjust their purchases down a grade — buying Good where once they bought Choice, for example? In the latter case, changing the grade boundaries is unnecessary at best, and confusing at worst.

This paper's conclusion is that consequences of the grade revision are likely to lie midway between the layman's and our hypothetical economist's inferences. The reason that the economist's inferences go somewhat awry lies in rigidities and lack of information in the wholesale and retail markets for beef, which were not considered in the arguement above.

Would leaner Choice beef be rejected by buyers as being of inferior quality? Within the very narrow biological limits of change proposed in this revision, it is very likely to be literally true that what beef is Choice to the consumer is what the grade standards say. In an uniformed market, such clues as price and name become an index of quality to buyers [1, 16]. What is generally accepted when the seller supplies the clues is even more convincing when there is an expert appraisal provided by the government. Thus, there is little likelihood that consumer reaction would cause retailers to try to keep the old grade specifications. While there is a chance that some retailers might be overly concerned about possible consumer reactions and might institute their own "higher" specifications, that probability seems very small in today's economy. However, in a more normal supply situation, the typical retail reaction is that beef sales are growing, so grades must be correct as they stand [17].

Why don't buyers turn to the leaner and more economical Good grade? The essential point here concerns rigidities in the marketplace. Retailers have found Choice grade to be a very effective merchandising device. Many major chains merchandise only Choice grade[2] cuts. They have spent millions in promoting their Choice beef image [14]. Thus, there is a powerful impediment to shifting from Choice to Good grade. Even adding some leaner beef in the meat counter under a trade name has been generally resisted in the past.[3] However, numerous retailers responded to beef supplies and prices in 1975 by experimenting with an additional leaner grade. "Baby beef" was frequently featured in the fall of 1974. One large chain has merchandised a mechanically tenderized short-fed beef under a trade name [18]. Therefore, the market forces are operating somewhat in the direction suggested by the economist's arguments, but against a strong retail impediment. Market adjustment would operate much more easily with this grade revision. Retailers are much more willing to sell a leaner beef if it can be called Choice. A leaner Choice grade boundary will permit a greater shortening of feeding before the Good-Choice price differential widens sufficiently to discourage further reduction.[4]

AN ADDENDUM

At this point, one might conclude that grade revision would promote useful adjustment, as long as present beef/grain price relationships exist, but might need to be reversed if and when former feed price relationships are restored. An elaboration of the first point made above suggests the non-reversal of this revision. In fact, marbling is so poorly correlated with eating quality, that a reduction of something less than 10 percent in marbling will likely represent no discernible reduction in eating quality to the typical consumer [7, 8, 14]. Thus, this grade

[2]Choice was 80.5 percent of the beef graded in 1973 and Good was only 12.2 percent. Data supplied by USDA-AMS Livestock Division by telephone.

[3]Especially outside the South.

[4]The gain in animal value from moving from Good to Choice grade is a powerful incentive to keep feeding even at the historically usual price differentials of only $2 to $3 [12].

revision is likely to facilitate a gain in economic efficiency. The game appears to be positive sum rather than zero sum, with consumers and the beef industry sharing short term gains.

A sensible question is why there should be any ado about a grade revision of as insignificant an impact on eating quality as the alleged. One needs to understand the historical context. The beef grading system was developed at a time when slaughter cattle varied from corn-fed prime cattle to 4 and 5 year-olds straight off the range. The particular grades were affected not only by this diversity but also by a pressure group that wanted to promote a market for corn-fed cattle of the British beef breeds [13]. As production patterns have changed, so that most slaughter steers and heifers are young and grain-fed, great variations in eating quality no longer exist. Moreover, it has been found that original top grades were very wasty and unnecessarily fat for good eating. For example, today's Choice grade is a degree or so less marbled than what was originally designated as Good grade. The present revision is but another step in a series of moves to bring standards more in line with modern market demands and production patterns.[5] Thus, present economic pressures have fostered a political climate in which it seemed that a long overdue revision of standards might be obtained. Yet resistance to grade changes is frequently strong. Old ideas about a high relationship of marbling and eating quality are still widely held. Moreover, government agencies currently generally suffer a lack of credibility, making their proposals almost automatically suspect in many quarters.

RETAIL YIELDS AND MANDATORY DUAL GRADING

The economic importance of variations in the retail yield of beef carcasses was demonstrated by researchers of 20 years ago [2, 11]. While there tends to be some trade-off between dressing percentages and retail yield, differences in retail yield on the live animal basis tending to be less important than on a carcass basis, retail yield is a more important determinant of live value than either dressing percent or grade [6]. In recent years, the USDA has regularly published a series estimating the varying retail value of Choice carcasses in its 5 yield grades. Table 1. is a recent example.

Table 1. USDA ESTIMATED VARIATION IN RETAIL VALUE OF CHOICE BEEF CARCASSES BY YIELD GRADES, JULY 1974

Yield Grade	1	2	3	4	5
Retail Sales Value per cwt. of Carcass	$116.28	$110.29	$104.30	$98.32	$92.33

Source: "Livestock, Meat, Wool Market News, Weekly Summary," USDA, September 4, 1974.

Retail yield value differences have finally gained some market recognition. One of the frustrations of livestock marketing specialists has been the slowness with which market participants have moved toward market prices reflecting variations in retail value. Instead, trading was on an average mix. The result has been that we continued year after year to trim two billion pounds of waste fat from our beef.[6] One of the few benefits of the recent episode of marketing over-finished cattle is that the wholesale market prices for middle and poorer yield grades (Numbers 3, 4 & 5) finally began to be aligned with their retail value. It is now trade usage on the Yellow Sheet wire service that "General Range" of Choice denotes yield grade 4, "Top Half" of Choice being 20-25% yield grade 4. The rest is yield grade 3. In June 1974, the #5 yield grade carcasses were selling for as much as $10 per cwt. under the #3's.

The present proposal would not change yield grades. It would, though, move away from the voluntary practice of grading by requiring that any official marking include both yield and quality grades. Quality grades were marked in 1973 on about 67% more beef than was yield grade marked.[7] Thus, a mandatory linking of the two would change the present practice considerably.

[5] Ample research indicates that conformation has no relation to eating quality and that the usual variations in maturity of grain-fed cattle are so small as to have no relation to eating quality [1, 15].

[6] Estimate of 2.5 billion pounds by an animal scientist [5].

[7] Data supplied by USDA-AMS Livestock Division by telephone.

There is much to be said for this mandatory double-or-nothing grading. The industry's glacial slowness in recognizing yield may justify a considerable prod by government. Basic market impediments to recognition of yield values have persisted — and even revived — as production has shifted away from a high proportion of wasty cattle in 1975. These basic market impediments include the nature of bargaining in an imperfect market and difficulties of breaking away from the normal pattern of trading on the average. As long as market information and market practice centers on the average, any firm which deviates finds itself in an unknown land of battling for or against premiums and discounts. Any seller who begins to sort and sell some beef at a premium finds that other buyers now suspect his remaining mix. While these problems may not seem very formidable to an academician, they have apparently been so to the practitioners.

On the other hand, there are arguments against the double-or-nothing grading proposal. First, the barriers to trading on a yield basis seem to have been hurdled, and once surmounted they may no longer be significant. Price differentials by retail yield now exist in the market place. The main concern of the agricultural economist is that differential values are recognized in the market place, and not whether they are or are not stamped by an official yield grade. Second, there is some concern as to industry pressures on the whole grading process — this may build up if the voluntary practice of grading is infringed.

In summary, the achievement of the market recognition of yield differences is very important. But that's not the issue. The question is whether the change in yield grading regulations will assist in this achievement. While the USDA proposal would probably promote that value recognition, there is certainly room for debate.

LEGAL DEVELOPMENTS

Several opponents of the grading proposal just recently sought and obtained an injunction against its use. A suit filed by a few small meat packers (and later supported by the intervention of the National Association of Meat Purveyors, the National Restaurant Association, the National Livestock Feeders Association, and a coalition of consumer groups) obtained this kind of injunction in the U.S. District Court in Omaha. If the government appeals, the issue may not be finally decided for many months. If there is no appeal, grade changes are stopped until and if new proposals are developed and carried through the prescribed process.

The suit and the Court's decision support the contention of this paper that grades are an institution which make a difference in the market-place. Those suing saw that difference as harmful to their interests. While the public interest is considered over-riding, grade changes do sometimes help or hurt particular interest groups [13].

SUMMARY

The proposal to revise grade standards would lower the fat content of the top four grades by eliminating conformation and reducing marbling requirements. This grade change should facilitate production adjustments toward shorter feeding times and less production of waste fat. This facilitation by a grade revision may seem to contradict the usual neutral role assumed for grades. In fact, beef grades are not neutral. In the imperfect competition of our retail merchandising economy, beef grade boundaries do affect demand.

The revision would also require that any official grading include both a retail yield and a quality grade. Yield grades are concerned with a larger source of value variation among fed cattle than quality grades. There has recently been market evidence that wholesale beef prices are finally reflecting some of the differences in retail yield. Whether the proposed tie of retail and quality grades would encourage a more accurate market reflection of retail yield is a difficult question, but it is likely worth a try.

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