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EYE-VALUE SYSTEM VS. DANISH SYSTEM

(IN MARKETING PORK AND BEEF)

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EYE-VALUE SYSTEM VS. DANISH SYSTEM

(IN MARKETING PORK AND BEEF)

By

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INTRODUCTION

In the presentation of marketing problems at Oklahoma A. and M. College, questions were asked concerning the little-known and misunderstood Danish system of grading livestock. This is a system of weighing and grading the dressed carcass and determining the proper price to be paid. Naturally, since we are a next-door neighbor to Canada and Canada already is using this system successfully in the marketing of hogs, it requires but little imagination to realize that the problem of whether to adopt the Danish grading system would soon confront us. This paper is developed with the purpose of bringing together such information as was available pertinent to the use of the Danish system in the United States.

Many producers feel that the present grading system is inadequate and have a reasonable basis for their lack of confidence in some Eye-Value-graded purchases. This treatment of the problem will endeavor to show the fallacies and advantages of the Eye-Value grading system as it is now used in the United States, together with the advantages and fallacies of the Danish system.

The Danish system as it will be discussed in this paper will be called the Carcass Weight and Grade. This title in itself denotes a brief description of how the system works.

The last part of this study deals with the probable adjustments which would be required in our marketing methods should the United States livestock industry adopt part of the principles involved in the Carcass Weight and Grade system.

If used in this country no doubt the Carcass Weight and Grade system would

be much like the application of the system in Canada but would be modified to fit our special needs. It would appear that a thorough understanding of the Danish system will enable more effective modification of its unique advantages to our own special requirements.

We have every reason to believe that the system offers great possibilities in several respects, and various agricultural marketing experts in the United States are already watching with close interest some of the experiments being performed by the Bureau of Agricultural Economics in comparing accuracy of the two systems.

One aim of this treatment is to bring together under one cover the comparison and evaluation of both systems.

Sincerest appreciation is expressed in the acknowledgment of the material, suggestions, and guidance of the following: Dr. Raymond D. Thomas, Dean, School of Commerce; Dr. G. P. Collins, Associate Professor, Agricultural Economics; Dr. A. L. Larson, Professor, Agricultural Economics; and George R. Hill, Associate Professor, Business Administration, all of Oklahoma A. and M. College.

CHAPTER I

SUMMARY AND CONCLUSIONS

The need for a change in our grading system is evidenced by the concern shown by the North Central Livestock Marketing Research Committee.¹ They have set upon a long-term program to weigh the validity of the live-grading system. Marketing men and meat experts from all major livestock-producing areas are participating in these experiments. One of their research projects is entitled "Marketing Slaughter Livestock by Carcass Weight and Grade."² The general objective is to determine the desirability and practicability of marketing slaughter livestock on a carcass weight and grade basis. The specific objectives are: (1) To determine to what degree the present method of marketing slaughter livestock in the United States properly remunerates producers for the actual differences in value to the packer of different animals. (2) To determine how accurately a system of sale by carcass weight and grade reflects these actual differences in value of slaughter livestock thus yielding proper returns to producers. (3) To determine the economic and physical problems involved in marketing slaughter livestock by carcass weight and grade and possible solutions to these problems.

This study is justified by the fact that livestock constitutes the principal source of income to farmers of the North Central Region.³ Under the

¹Research and Marketing Act, 1946.

²1948 Annual Report of North Central Livestock Research Committee.

³Farm Income Situation, January, 1948, p. 3.

present system of marketing slaughter livestock, the buyer determines the price he will pay for the live animal by estimating the value of the meat and other products it will produce. The buyer arrives at this value by estimating both the dressing yield of the animal and the weight and grade of the carcass and other products. It is difficult for even experienced buyers or sellers to make such a visual appraisal accurately; consequently, any method that shows promise of greater accuracy should be carefully explored so that producers may be paid in accordance with the weight and grade of product actually delivered.

The previous research work conducted in this field shows relatively little data are available from work which has been done in the United States. Some hogs were sold from the Corn Belt to eastern slaughterers on a guaranteed-yield basis during the 1920's and early 1930's. A little pioneering work has been done in this field by a few packers in the North Central Region during recent years. Packers bought some livestock, chiefly cattle, on a carcass weight and grade basis during World War II.

A few Canadian packers began to buy hogs by carcass weight and grade on a voluntary or optional basis in 1934. By 1940, the use of this method on a voluntary basis had increased until it was applicable to 60 per cent of the hogs slaughtered.⁴ The method was then adopted for all slaughter hogs. There are, of course, wide differences in livestock market procedures and conditions in Canada and the United States. This is explained further in Chapters 2 and 3.

The Iowa Agricultural Experiment Station began formal research work on this project in 1936, and the Minnesota Agricultural Experiment Station in 1946. The South Dakota Agricultural Experiment Station began work on this project

⁴James G. Gardiner, National Advisory Beef Committee Report of Canada, March, 1942.

during 1947. Several other states in this region are interested in this project.

The United States Department of Agriculture has conducted extensive studies designed to facilitate setting of objective specifications for carcass grades. The procedure has been as follows:⁵ (1) The State Experiment Stations involved in such work will secure the cooperation of at least one packer or slaughterer in each participating state in conducting this research. (2) A buyer for such a meat packer and also federal or state employees will estimate the yield and grade of different weights of live animals. These estimates will subsequently be compared with the actual yield and grade of the carcasses. Weight, grade, and other data will be obtained on individual animals and lots of animals. Active cooperation has been provided by the Producers Marketing Association in the grading of live animals and carcasses as described above. (3) The cut-out values of the carcasses and other products are related back to the prices paid for the live animals. (4) An equitable method of making payment for edible and inedible by-products is to be developed. (5) Satisfactory objective grade specifications for hog carcasses are to be established. Similar work may also be necessary for other types of livestock. (6) An efficient method of maintaining the identity of carcasses and other products through the slaughtering process will be developed, so that accurate settlement can be made. (7) A practical and desirable procedure for handling condemnations and losses due to various causes shall be devised. (8) The cost of actual selling of livestock by carcass weight and grade shall be compared with the cost of selling livestock on the hoof.

⁵1948 Annual Report of North Central Livestock Research Committee.

Do we need an improvement over our present live-weight grading system?

The marketing of slaughter livestock is the most important marketing activity with which the farmers of the United States are concerned. Cattle are kept on about 80 per cent of the farms of the country, hogs on about 60 per cent, and sheep and lambs on about 9 per cent.⁶ Although cattle are kept on many farms primarily for milk, rather than for meat, the veal calves and culled out dairy animals from these farms produce about one-fourth of the combined beef and veal of the country.⁷ The cash farm income obtained from meat animals accounted for over 26 per cent of the total cash farm income from all crops, livestock, dairy and poultry products, and government payments during the years immediately preceding World War II,⁸ and 32 per cent in 1947.⁹ Comparable figures for dairy products, which ranked second, were about 17 per cent and 13 per cent respectively during the periods of time just previously discussed. The efficient marketing of slaughter livestock will become increasingly important in the years ahead when farmers are likely to receive a much smaller proportion of the consumer's meat dollar than is the case during the present boom.

It is generally recognized that the physical operations in a modern meat-packing plant leave little to be desired either from the standpoint of efficiency in slaughtering and processing or from the standpoint of utilization of by-products. It is in other areas between producers and consumers that greater efficiency is an urgent need. There is a general lack of efficiency in the

⁶1940 Census.

⁷U. S. Department Agriculture Yearbook, 1922, p. 284.

⁸Agricultural Statistics, 1941, p. 549.

⁹The Farm Income Situation, January, 1948, p. 3.

local assembly of livestock and in the movement of animals to the place of slaughter. There is considerable duplication in processes of concentration of animals at the place of slaughter. There is considerable duplication in services rendered by agencies handling livestock, along with wasteful use of feed in the "filling" process.¹⁰ There are weaknesses in the pricing mechanism and a tendency to generalize prices paid for slaughter animals instead of paying each individual producer the true value of the actual weight and grade of product delivered. Likewise there is need for improvement in the distribution of meat, and for the development of ways and means whereby consumer preferences can be brought into sharper focus than is the case at present.

For many years, substantial emphasis has been placed at the Iowa State agricultural experiment stations on the nutritional requirements of slaughter livestock.¹¹ More recently increased emphasis is being given to work aimed at improving the genetic make-up of slaughter hogs. Significant results have been achieved from both of these important research activities.

Economic gains from improved breeding and feeding may be observed to result in greater output per unit of feed, as well as an improvement in the quality of the product. The distinction between these two types of improvements is highly significant. Progressive farmers will tend to adopt that practice which reduces production costs. On the other hand, a change in feeding or breeding technique which improves the quality of product without affecting physical input-output ratios is likely to make little appeal to producers unless they receive a higher price for the superior product. Under existing market conditions, butcher hogs

¹⁰Arthur C. Davenport, The American Livestock Market--How it Functions, p. 47.

¹¹Austin A. Dowell, "Slaughtering Livestock by Carcass Weight and Grade," Scientific Journal Series of Minnesota Experiment Station, 1948.

are sold in the United States by live weight with little or no sorting or pricing on the basis of quality,¹² except for gilts advanced in pregnancy and hogs with obvious defects. In other words, that part of the work of the animal geneticist or nutritionist, which leads to an improvement in the relative proportions of quality of high-value pork cuts, will have little practical significance unless and until consumer preference is reflected in a differential price to producers.

Indications are that quality is given more consideration in the pricing of other species of slaughter animals than is the case with hogs. Nevertheless, there is considerable disparity between prices paid for individual animals or lots of animals and actual values. In the case of an individual slaughterer, this disparity probably disappears with the purchase of large numbers of animals, but the individual farmer is concerned with the actual value of his particular animal or lot.

Interest in the desirability and practicability of marketing slaughter livestock by carcass weight and grade has developed during recent years. Some pioneering work was carried on at the Iowa Agricultural Experiment Station during 1938 and 1939.¹³ In this study it was found that experienced packer buyers were not able to appraise accurately the cut-out value of individual lots of hogs. The Minnesota Agricultural Experiment Station began work with slaughter cattle and butcher hogs in 1946, and the Wisconsin and South Dakota Stations with veal calves and slaughter lambs in 1947. "Marketing Slaughter Livestock by Carcass Weight and Grade" was adopted as a regional project by the

¹²The National Provisioner, July 3, 1948, p. 57.

¹³Geoffrey Shepherd, Fred J. Beard, and Arval Erikson, "Could Hogs Be Sold by Carcass Weight and Grade in the United States?" Iowa Agricultural Experiment Station, Research Bulletin 220, pp. 462-471.

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North Central Livestock Marketing Research Committee in March 1947. The overall project included four sub-projects covering (1) cattle, (2) veal calves, (3) hogs, and (4) sheep and lambs. Grants from Research Marketing Administration funds were made to the cooperating states in the fall of 1947 and additional funds from this source have been made available for fiscal 1949.

Seven state agricultural experiment stations are now at work on one or more of these sub-projects. These states include: Iowa, Kansas, Michigan, Minnesota, Ohio, South Dakota, and Wisconsin. Four other corn-belt states expect to begin work on various sub-projects during the current fiscal year. These include: Indiana, Kentucky, Missouri, and North Dakota. The Departments of Agricultural Economics and Animal Husbandry at the various state experiment stations are cooperating on this project at the state level. Three bureaus of the United States Department of Agriculture are cooperating with the state experiment stations. These include the Bureau of Agricultural Economics, the Production and Marketing Administration, and the Bureau of Animal Industry.¹⁴ Packing plants in the various states of the region are cooperating by making their facilities and personnel available for the collection of primary data.

The approach to the problem of marketing slaughter livestock by carcass weight and grade is not the same for all species. Beef, veal, sheep, and lamb carcasses are sold in the wholesale trade, and prices are quoted on the basis of the established official U. S. Grades. In purchasing these species on the

¹⁴The Bureau of Agricultural Economics has employed a Cooperative Agent, with headquarters at University Farm, St. Paul, Minnesota, to assist the state workers with the collection, tabulation, and analysis of data. The Production Marketing Administration has assumed responsibility for grading all carcasses and wholesale cuts. Graders located near the slaughtering plants where work is in progress will be assigned to this work. The Bureau of Animal Industry will assist with the measuring and will supervise the cutting of hog carcasses in plants where this work is in progress. Each of these United States Department of Agriculture bureaus has designated a staff member to consult and advise with the regional technical and Executive Committees.

live-weight basis, buyers attempt to arrive at actual value by estimating the carcass grade and dressing yield. Consequently, one approach to the problem for these animals is to determine the departure of these estimates from the actual yields and carcass grades and to determine the economic significance of these errors of estimate. On the other hand, hog carcasses are not sold as carcasses but in the form of wholesale cuts and trimmings. No official government standards have been established for carcasses of this species. Consequently, the first step is to establish objective carcass standards which have economic significance. It will then be possible to measure the relative accuracy of the live-buying method and the carcass weight and grade method.

The figures arrived at in this study indicate that live buying removes 45 per cent of the value variance while carcass buying would remove 82.9 per cent (45.0 + 37.9). These two reductions constitute a comparison of the accuracy of the two methods. Viewed from another direction, from 100 per cent down, under the live-buying method 55 per cent of the total variance remains after purchase in the form of a distribution of actual values above live prices paid, while under the carcass method only 17.1 per cent of the total value variance would remain after purchase in a similar distribution of values about carcass prices paid.¹⁵

On the basis of these preliminary studies, it appears that considerable improvement in the accuracy of grading and pricing slaughter cattle and hogs might be brought about through the adoption of the carcass weight and grade method of marketing. Pricing errors arising from wrongly estimating yield

¹⁵Gerald Engelman, "Carcass Grade and Weight Studies in Marketing Livestock," Journal of Farm Economics, November, 1947, pp. 1424-1428.

would be eliminated, while those due to errors in estimating carcass grade would be reduced. This would permit more accurate reflection of consumer preferences back to livestock producers and, hence, tend to bring about more effective allocation of productive resources on the farm. Other apparent advantages would include greater efficiency in the movement of livestock to the place of slaughter, and elimination of unnecessary "fill."

It is important that the practicability of carcass weight and grade method of marketing, under conditions which prevail in the United States, be thoroughly explored. These include, among others, the identification, weighing, and grading of the carcasses, handling condemnations, making settlement to owners of the animals, and the relative cost of marketing under the carcass weight and grade and the live-weight methods.

It seems probable that this will prove to be one of the most fruitful fields to be explored by those who are interested in bringing about the more effective marketing of slaughter livestock and meats.

Aside from the possible eventual development of adequate objective standards for animal carcasses, there are a number of very complicated problems and difficulties in connection with the proposed method of marketing livestock by carcass weight and grade. Since we should keep these in mind in looking down the road, and before reaching conclusions, we mention some of them.

(1) Maintaining identification of animals would be very difficult. No method of marking, including tattooing, has been perfected that will prevent the mixing of animals before final value determinations are made. This would be particularly serious in the case of animals having large bruises or otherwise subject to discount for quality.

(2) Determination of shrinkage allowances for the time involved when livestock is in transit and is being held for slaughter. Considerable shrinkage

goes on from the time the animals are loaded at the farms until they are slaughtered, and the amount of shrinkage will vary also, depending on the distance traveled, the length of time en route, the method of transportation used, temperature, kind of feed fed and the treatment the animals received en route. This problem of shrinkage allowances would be a difficult one, especially on shipments of live hogs from the Midwest to the East and West Coasts.

(3) The handling of condemnations would be particularly troublesome.

Under the present system, condemnation losses generally are spread among all purchases. Under the proposed system, condemned animals, presumably, would be identified.

(4) The time lag in payment to the owners on the animals would create many problems, unless there were to be great changes in where and how livestock is sold and slaughtered. Most livestock producers prefer to receive proceeds from the sale of their livestock at the time of delivery of the livestock to the buyer. This is a particularly troublesome problem where livestock is slaughtered at a considerable distance from the point of production.

(5) Most livestock producers, as well as buyers, would be reluctant to place completely in the hands of a government grader the value determination of animals.

(6) There is a possibility that considerable additional expense would be involved which would increase the margin between the price received by producers for livestock and the cost of meat to the consumer, but this result need not be.

CHAPTER II

EYE-VALUE SYSTEM

The system of grading that we have used in our marketing of livestock here in the United States has been the Eye-Value system. Briefly, the Eye-Value system is what its name implies--that of purely weighing the value of the animal or any other product solely upon what the eye can detect. The main problem consists of being able to forecast what should later be found to be the intrinsic value of the animal on the basis of outward features or indications. It generally means that an experienced livestock man walks around the animal, observing all defects and every indication of what the animal might grade out when dressed.¹ Needless to say, many mistakes have always been made in the system, because no prudent marketing man would contend that one could look at the outside of a box and tell what was inside. However, on the other side of the picture, many identifying features do appear in exterior aspects of live animals which help to determine what the meat will actually grade when butchered. Many different types of meat animals which due to basic variances call for entirely different methods of evaluation are graded by this Eye-Value system. It is undisputed that the outward appearance of one animal may be an ideal indicator as to appropriate grade, whereas in another type of animal just the opposite may be true. A classic example is

¹Theodore Macklin, Efficient Marketing for Agriculture, The Macmillan Company, 1921.

the comparison of beef to hogs. These differences will be taken into consideration later on.

Many problems present themselves in our marketing of livestock here in America, which cause most people to readily conclude that it is seemingly necessary that we use the Eye-Value system. One such problem involves the fact that livestock is often traded from one dealer to another, sometimes changing hands three or four times between producer and packer.² It is the belief of marketing men who are not familiar with any other method of grading that the current system is the only one in which we could pay each man for the animal and transfer title to it, whereas later it will be shown that the Danish system could solve this problem. Another point to be considered in justifying the use of the Eye-Value system is that the producer wants a definite price quoted in order that he may decide whether or not to sell before his animal is slaughtered. One can readily see that our current method provides the alternative of taking it back and turning it out on the pasture if he is not satisfied.

It is evident that the graders or buying agents for different livestock dealers can be accurate enough to average out their purchasing over a long period of time so their employer does not lose money. But when this method of buying is applied on the individual animal basis the producer cannot be assured of the benefits of such averaging out. A buyer typically grades and purchases cattle by looking over the whole pen and mentally determining what the average animal will grade and weigh. His price is then made on that basis. There would be very slight objection to such an approach if the whole

²Geoffrey Shepherd, "Local Hog Marketing Practices in Iowa," Iowa Research Bulletin 262, August, 1939, p. 169.

pen belonged to one producer, but considerable loss may be sustained as applied to a particular animal sold in such a lot. The North Central Livestock Marketing Research Committee in their study on marketing slaughtered livestock by carcass weight and grade³ have definitely found that there was a sufficient degree of error in grading of individual animals to justify the use of some sort of carcass grading, although conceivably with adaptations.

Any buyer who has to grade a large number of animals during a season certainly has a definite advantage in that he can check back against his grades to determine the degree of accuracy with which he purchased, but as one producer worded it, "That does not do me any good after I have sold the animal and the packer has it, to discover that it was undergraded."

The Eye-Value system definitely gives the individual a unique bargaining position, for he can take it or leave it. This to many Americans is ideal. The system has been used for so long that it had become almost unquestioned until Canada started using the Danish system. This is too close to us to longer ignore its influence.

Grading standardizations are necessary to correct some of the faults of the Eye-Value system.⁴ The grades commonly used in the purchasing of livestock are not in every case identical with the grades which are standardized for the dressed animal. This causes considerable confusion in some cases.

To sum up the advantages of the Eye-Value system, one must mention first that it is the existing system; therefore, the public does not have to be

³1948 Annual Report of North Central Livestock Research Committee.

⁴Austin A. Dowell, "Slaughtering Livestock by Carcass Weight and Grade," Scientific Journal Series of Minnesota Experiment Station, 1948.

educated to the use of it. The packers have their machinery all set up to use the Eye-Value system. The producer for a long time has been used to this system, and the middlemen, serving as the go-between for both producer and consumer, use the system successfully.

Second, the animal can be evaluated many times, for many different buyers bidding for the animal appraise the same animal, yet without necessity for slaughtering of the animal.

Third, making settlement is easily and quickly accomplished. As the animal passes from one owner to another owner, payment is readily made upon the basis of the eye evaluation, sometimes aided by scales.

Fourth, no identification problems arise in the Eye-Value system such as present themselves in the Danish system. Since the purchaser has already paid for the animal, it becomes his and specific identification is often unnecessary.

The disadvantages or fallacies in the Eye-Value system might be summed up in four points: first, the system upon thorough examination has not proven as accurate in grading as the Danish system.⁵ Experiments performed in Canada by the Dominion Department of Agriculture, the National Advisory Beef Committee, in their study of 3,000 animals at Vancouver, proved rather conclusively that the Eye-Value system of grading was not as accurate as the carcass grading. Similar experiments being performed in the United States now through the Agriculture Experiment Station, the University of Minnesota, on equally as large a sample come to somewhat the same conclusions. Like experiments are being performed at Iowa State College.

Second, the Eye-Value grading does not offer the incentive to the producer to better his grade of livestock. The existing system over the years has

⁵Ibid.

averaged in the over-finished and under-finished animals in the grading of a pen of livestock. Consequently, since buyers expect such end-grade animals to slaughter out differently than the average, there is a tendency to under-grade in an effort to assure themselves that they will not over-grade. Diagrams and charts included in this study show how hard it would be to properly estimate the amount of excessive fat or the low per cent of lean cuts in an animal when grading it by the Eye-Value system. The producer is aware of this, and consequently does not have much of an incentive to produce a high-grade, predominately lean-cut animal for market. This in itself accounts for the third disadvantage or fallacy of the system.

Eye-Value grading promotes and encourages "filling." Any producer who is ready to market his livestock knows that the live weight and conformation, based wholly upon outside appearance, is the basis upon which he is paid; therefore, he hopes his animal will weigh as much as possible and look as rounded out as possible. Both of these factors promote and encourage the practice of "filling" the animal for market purpose. This has been estimated, on the basis of the volume of livestock slaughtered in the United States, to represent a huge amount of waste. Filling can and does account for $6 \frac{2}{3}$ pounds per animal if practiced.⁶ To see just what waste this represents, let us extend this $6 \frac{2}{3}$ pounds at $21 \frac{1}{2}$ cents (average price paid per pound on foot for last year) for 95,000,000 hogs marketed last year. A figure of approximately \$136,000,000 is arrived at.

Fourth, eye-value grading leaves many producers skeptical. The author upon personal contact with many producers in his preliminary work found that

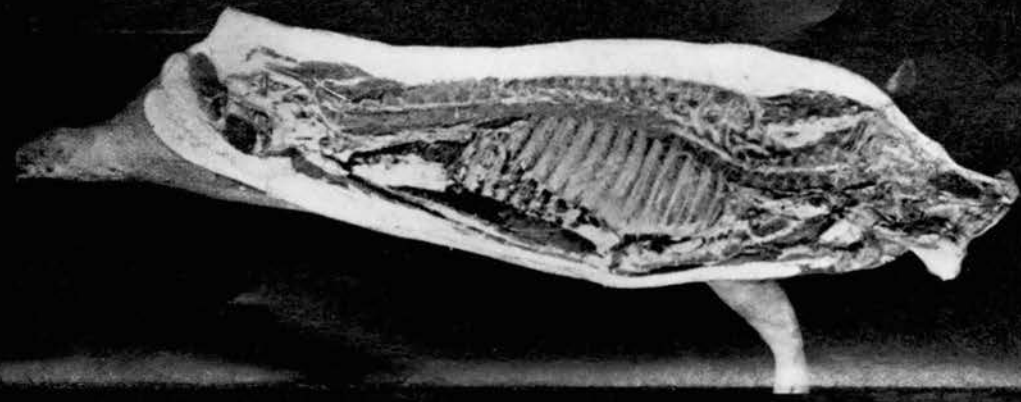
⁶ Arthur C. Davenport, The American Livestock Market—How it Functions, p. 47.

ALL WITHIN THE PROPER WEIGHT RANGE
(140 TO 170 POUNDS PER CARCASS)

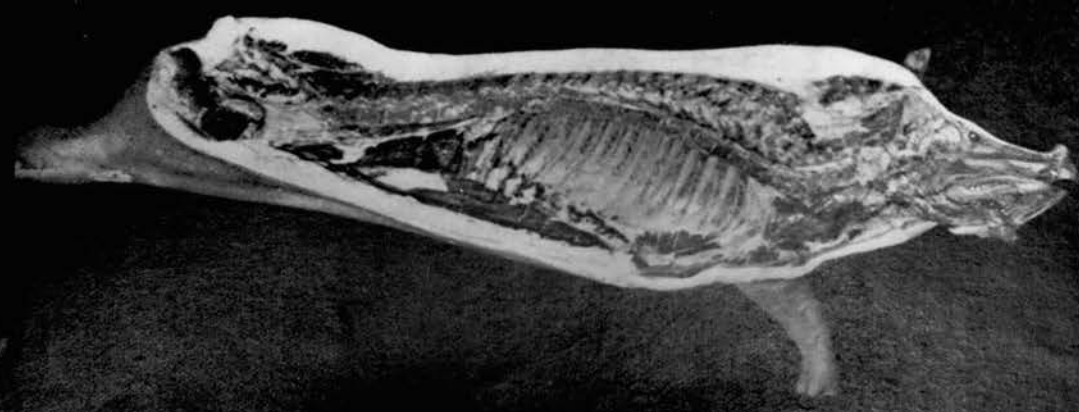
A Study of Sides



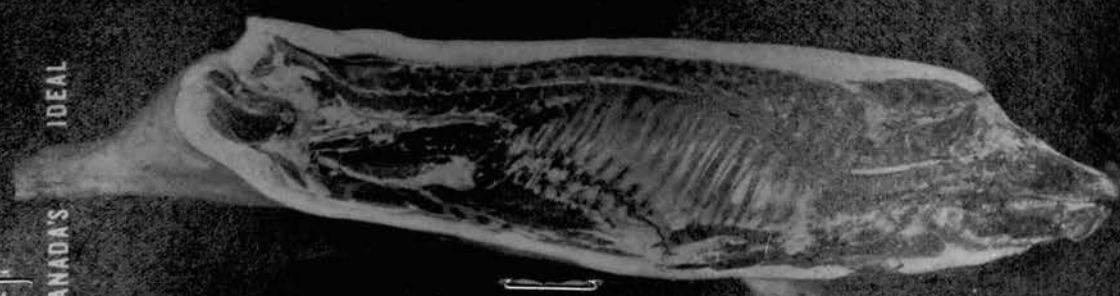
GRADE D1
Good length
Unfinished



GRADE C1
Too short
Back-fat too thick
Overfinished



GRADE B1
Lacks balance
Flank shallow
Back-fat uneven



GRADE A
Uniform depth
Flank well filled
Back-fat even depth

CANADA'S IDEAL

Recognition and appreciation is expressed to the National Advisory Beef Committee of Canada for this illustrative picture of four grades used in Canada.

most producers feel that the packer gets the benefit of inconsistent grading in almost every case by undergrading becoming a dominant part of this grading method.

Many of these points that have been stated above as advantages or disadvantages might be counterbalanced by advantages and disadvantages of the Danish system, as will be explained later, but it was essential that these points pro and con be described as a vital aspect in any suggestion of our adopting this method in the United States.

CHAPTER III

THE DANISH SYSTEM

The Danish system, so-named because of Denmark's popularizing it, is often called the Carcass Weight and Grade system in the United States and Canada. Briefly, the system works through appraisal of the dressed animal by a competent person authorized to do such grading. Many factors enter into the actual grading of the carcass, but considerable study has been made of these problems and the results of some of these studies will hereafter be discussed.

A working knowledge of the Carcass Weight and Grade system might be visualized by an imaginary visit through a Canadian packer's plant which uses the Danish system. The plant is very modern and slaughter operations are large. Up to 500 hogs an hour are killed.

Hogs are unloaded at the yards, tattooed on the shoulder for identification, and are then slaughtered. After they are scalded, scraped, and the viscera removed, the hogs are weighed by an automatic scale which discharges a perforated ticket with the carcass weight stamped on it in two places. This ticket is hung on the carcass. As the carcass passes the federal grader a little farther down the rail, he takes one section of the weight ticket and marks on it the grade of the carcass along with any indication of why the carcass did not grade "A" if it did not.

Grade "A" carcasses must weigh within a 140 to 170 pound range. They must measure at least 29 inches in length and have no more than two inches of fat over the shoulder, neither shall they have less than 1 1/2 inches of fat over

the loin.

The problem of identification seems to be pretty well solved, and in any case of doubt a system of tracing an error has been worked out.

All hogs must be sold on the basis of carcass grade; however, permission may be granted to sell on a basis of live weight and live price, but not live grade. Hogs are usually sold on a carcass weight, price and grade basis, with the exception of sows.

Since 1944, when regulations were amended, each grade is paid for at a price which is felt to be its actual commercial value rather than on a premium and discount basis. There is usually sufficient differential in price between the "A" and "B₁" grades to maintain interest in the production of the "A" grade hogs. It is felt that this differential approaches very closely the actual difference in cut-out value between the two grades on either an export or domestic basis.

Prices on the other grades such as "B₂," "B₃," "C," and "D" fluctuate, depending upon the supply of and demand for those classes of hogs.

Extra-heavies may bring the same price as heavies, No. 2 sows the same as No. 1, and at times heavies and sows may sell at the same price. The trade can and does determine to good advantage the prices for the so-called off-grade hogs.

Prices as arranged between the trade and the producers, with the Department of Agriculture supporting the agreement, may fluctuate from day to day, but there are never two different prices on the same day. The prices each day apply to all hogs on sale that day whether sold at the packers local yard or in the stockyards. Consequently, about 90 per cent of all hogs go direct to the stockyards.

Each farmer receives a statement on his shipment of hogs that gives him

complete data on the grading, weight, etc.¹ (Plate No. 2 shows the weight ticket, purchase ticket, and identification papers).

The first advantage mentioned by all who have studied the Danish system is that it is more accurate in grading. It is not hard to see that the meat exposed to one's eye makes it easier to grade and evaluate than looking at it on foot. Every experience that has been reviewed has shown that the carcass grading has a greater degree of accuracy than the live-weight grading. The Iowa Experiment Station at Ames, Iowa is now cooperating in a study to determine relatively just what degree of accuracy is obtained. The final figures of this experiment have not been released but definite conclusions have been reached indicating that the Danish system is a more accurate grading method.²

The second advantage that the Danish system offers is an incentive to the producer to improve his grade. Many producers are reluctant to finish their animal or feed it properly to produce the ideal grade of pork or beef, for they know that such superiority will not likely be recognized when the animal is marketed. It is understood that the majority of animals are marketed for meat purposes here in the United States. The producer is aware of the fact that one good animal merely goes along with the rest of what may be an average grade lot. Since the emphasis is upon weight and conformation, very little attention is given by the producer to the production of ideal butchering animals. History of Canadian use of the Danish system in the marketing of

¹James G. Gardiner, National Advisory Beef Committee Report of Canada, March, 1942.

²Geoffrey S. Shepherd, Marketing Farm Products, chap. 17, 1945.

livestock discloses that its adoption has improved the type and grade of porkers to a remarkably high degree. Nevertheless, the author is not implying that this is as much an advantage as would appear upon the surface, for the type of market available to the Canadian producer is different than that of the United States producer. The majority of hogs marketed in Canada of this top grade are for the British Isles' consumption, and Canada adopted this system purely as a competitive measure against the Danish product. But the system does create an incentive for the producer to improve his grade of hogs.³

The third advantage is found in the added confidence of the producer in such grading. Any producer who knows that his animal is scientifically graded and paid for upon that basis will certainly feel more confident of the system.

Fourth, a more scientific approach can be justified much more easily. It is extremely hard for any well-trained grader or buyer to justify his decision on many animals whereas the argument is very convincing when a scientific approach is used such as the Danish system provides.

Fifth, the Danish system would standardize the grades and grading process. Definite standards of grading must be published and universally used; otherwise, the Danish system would be considered as haphazard as the conventional system.

Sixth, the Danish system gives the producer added profit for producing a premium animal. Contrary to the present system, each animal would be purchased upon its own dressed grade and weight.

Seventh, the system offers a better check on condemnations. Any animal

³Austin Allyn Dowell and Knute Bjorka, Livestock Marketing, 1941.

condemned under the Danish system would be paid for on a definite basis, pre-determined contractually, thereby eliminating the loss on such animals by the packer. As the system now stands, the packer loses the price of this animal unless bought under a contract subject to animal proving to be sound.⁴

Eighth, the system would eliminate the waste that now exists from the purchase of fill. There would no longer exist any reason for the wasteful practice of filling the animal before butchering.

The first and foremost disadvantage of the Danish system is that the animal can only be graded after slaughtering. This within itself would mean that the producer has no alternative for his animals already slaughtered; if he is dissatisfied with grade and quotation, he must take it in spite of his dissatisfaction. This causes many producers to stop and weigh the question in their minds before they would favor such a system.

The second disadvantage lies in that there is some delay in the final settlement for the sale. The animal needs to be dressed, graded, and final records tabulated before payment is made. This invariably leads to an advance being paid subject to a final settlement for the lot of cattle or hogs, and this in itself means additional accounting procedure.

The third disadvantage, which is considered very important by many, is that it would necessitate a change in our entire system of marketing. This might not be as much a disadvantage as one would think, for who knows how much more efficient the substitute system would be after it was inaugurated? But needless to say, the bidding for the livestock requires a different method, grading would invariably use part the Eye-Value system and substantiate it in

⁴Henry W. Vaughan, Types and Marketing Classes of Livestock, Fourth Revision, 1941.

the final analysis by the Danish carcass grading system. Some machinery that is now used in our system would have to be altered. For example, our identification system would have to be foolproof. Perhaps a tattoo would be used on several parts of the carcass.

The fourth disadvantage might be considered that of training government graders who could be relied upon to be accurate and consistent in their grading of the animals. We could reasonably be assured that the system would work out satisfactorily since our cotton, tobacco, wool, and many other products have been graded for some time by government classifiers and graders. This, however, would necessitate the establishment of a reputable school for graders that they might be accurate and consistent.

CHAPTER IV

PROBABLE ADJUSTMENTS

The necessary adjustments to use the Danish system in the United States would include, no doubt, the following: (1) A feedback in the graded value settlement to reach the producer. We are aware of the fact that many times an animal passes through the hands of several dealers before it reaches the packer. This would necessitate a feedback in the increased or decreased evaluation of that animal. This would work in such a fashion as additional trade credits allowed one dealer with another, but the problem would be how far back could this feasibly go in order to reach the original producer. In any case it is evident that such an adjustment would have to be incorporated in our system if we used the Danish method with greater efficiency than it is now used in Canada.

(2) Perhaps a cooperative slaughter house would be the answer to this particular adjustment, for it is hard to visualize Swift and Company slaughtering an animal for a producer but at the same time not placing any restriction upon his later selling that particular carcass to Cudahy after the government grader had completed the grading process. A system of cooperative slaughter at a centrally located point would be of service to all packers represented in that town. The animal would be graded and weighed on the scales incorporated in the overhead track, then at this moment the producer could announce whether he would sell it to Company X, Y, or Z. In view of this one would have to say that perhaps a cooperative slaughtering would arise. (Further explanation

under 4).

In connection with this point one must not forget that the cooperative-managed integrated marketing system, reaching completely from producer to packer, is a possible answer to this situation.

(3) A special identification system would no doubt be part of the adjustments in inaugurating the Danish system. Our identification system as it now stands is inadequate. Some system device comparable to that used in Canada, maybe with some few improvements on tracing errors, could be incorporated. In any case some definite, possibly tattoo-type, identification would be necessary.

(4) The bidding for a producer's livestock would likely witness great alteration. If we used the cooperative slaughtering, then one could readily visualize bidding by grades on a posted board owned and kept current by each packer represented in that vicinity. It would then become possible for the producer to study these prices as posted and determine to what packer the dressed graded carcass would be sent. This, of course, would utilize the overhead track or conveyor system going directly to the cooling room of the several packing companies. In following this process let us say that a beef or hog might be dressed and graded. The great need for "A" grade by Company X to fill a contract might be an incentive for that company to post a premium price upon "A" grade carcasses. Company Y might have a greater demand for "B₁" grades and would be offering a premium on that grade. We would have the producer waiting for the grade of his animal to be determined so he might decide which packing company he would sell to. This would alter our bidding system as it is today.

(5) A combination of the Eye-Value and the Danish system would no doubt find its way into our adjustments in order to take care of the multiple dealers involved in the sale of one animal. Many, in all probability, would rather

sell outright at a certain price, on foot, graded by the Eye-Value system, leaving the purchaser the alternative to sell on the dressed carcass grade and take what loss or gain his abilities might prove worth. All livestock that is marketed is not butchered, so one could see that both systems would have to be used.

(6) In thinking of the adjustments that might bring about the Danish system's use in the United States one must not overlook the influence of foreign trade. Canada, for example, inaugurated the Danish system for one purpose; namely, to meet competition of Danish pork on Great Britain's market. This created a very standard grade of bacon, hams, or picnic hams of a definite size and weight. The Danish system, of course, is especially adaptable to such a market; consequently, premium price is paid for that top grade demanded by foreign trade. Foreign trade might become a pertinent factor in the grade of our pork or beef and so bring about a quick adjustment of our marketing system to the Danish system, or the home market might change.

(7) Not the least important in this adjusting to another system is the consideration of the "trust-busting" legislation. Many people believe that there is a possibility of a campaign against large trusts as represented by our packing companies here in America. Some hint of that was made in our last presidential campaign. For that reason we cannot overlook this possibility. For example, if legislation were passed which would tend to break up these big trusts, many small independent packers would come to the front and would become very important. It is not unimportant to consider the possibility that they might inaugurate an alteration of the Danish system and thus focus ready attention on their activities.

(8) The general trend of our economic system runs in the direction of more cooperatives and even away from our present capitalistic form of govern-

ment. In noting the history of other nations who were at one time democracies, it is not farfetched to imagine that if we do not awaken to the need and move in the direction ourselves, government grading and classing and government controls of all packing facilities might conceivably follow. So this particular adjustment possibility is mentioned because its far-reaching aspect must include the possibility that changes might transpire in our basic economic system.

(9) The demands for several different grades of carcasses here in America make our system as it now works very desirable, but many changes might enter into our market to standardize and make more important the top-grade animals. In that event we would by necessity be forced into a standardized, government-supervised grading system whereby premium animals would be positively identified. On this particular subject we must think of the low-priced cuts, especially the fat of the animal, and how our prices of vegetable oils have lowered.

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