CARCASS CONTESTS AND BREED EVALUATION PROGRAMS

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Carcass Contests

When the 1961 International Live Stock Exposition opened in Chicago last November, cattle producers had entered 274 carcasses in the beef carcass show. This figure represents a substantial increase over the 42 entries in the 1941 show. At the contest held in connection with the Annual Midwest Steer and Carcass Show in Austin, Minnesota, producers entered a record 98 carcasses. The 1961 Nebraska State Fair's initial carcass show drew 53 qualifying entries from 31 counties. Interest in carcass classes at major shows all over the country has been steadily increasing. In addition to the International, we now have carcass shows at the Eastern National Livestock Show, Timonium, Maryland, the Grand National Livestock Exposition, San Francisco, California, the National Western Livestock Show, Denver, Colorado, the Southwestern Livestock Exposition, Fort Worth, Texas, and others.

This year Arkansas initiated the Arkansas Junior Meat-Type Beef Conference. This contest was designed to encourage practical feeding programs and only pens of five were eligible for this event. The cattle were placed both alive and again in carcass, with most of the award money being paid on the carcass show and based on actual carcass cut-out and grade. Junior program leaders in many other States are directing their attention toward carcass evaluation and have even held carcass shows at county level.

And why all this sudden interest in beef carcass shows? It seems that the livestock industry is becoming more and more aware of the value of such shows as an important means of improving the quality of beef cattle. This increased interest has also pointed up the need for some basic standard of accurate and uniform appraisal of carcass value.

Until recent years, the emphasis placed on the amount of finish in live cattle has presented producers with a slightly distorted picture of the characteristics most desirable in an animal. Some animals produce carcasses with a relatively small amount of fat and a high proportion of lean cuts, but with meat quality equal to, or even superior to, those that are much fatter. These desirable animals have simply not been given adequate recognition in many live shows.

Therefore, carcass contests can and have proven quite helpful in correcting these fallacies. Carcasses with superior meat quality and a high proportion of lean cuts are being recognized in such contests and this has stimulated judges to try and recognize these animals in the live shows. Stanley Anderson selected such a steer at the 1961 International Livestock Show when he named the Iowa State University steer Grand Champion.
Contest officials at several livestock shows, who are often college meatsmen, realized the importance of recognizing high-quality carcasses which provide high cutability. As a result, these officials have adopted methods of evaluating such carcasses on cutability as well as quality. The dual grading studies conducted by the Department proved that cutability could be estimated quite accurately by using measures of muscling and fatness.

At the Nebraska State Fair carcasses were evaluated on the basis of a "carcass index," a numerical rating representing the dollar-value per hundredweight of carcass. That index was an objective evaluation which combined cut-out yield and carcass grade.

Officials at many of the other shows mentioned earlier have adopted similar evaluation techniques involving the determination of cutability and quality grade. These techniques are, in many instances, based on the standardized method for quality beef contests presented at last year's Reciprocal Meat Conference and/or the Department of Agriculture's proposed dual grading system. As you know, the dual grading system will be put in operation on a trial basis beginning July 1, 1962.

The educational aspects of these carcass shows are intended primarily for the cattle producer. They attempt to point out to him just exactly what is desired in beef carcasses. Activities usually include an evaluation of all carcass class entries prior to slaughter and supervised tours allowing the public to view the carcasses after they have been judged. Occasionally, judging contests for 4-H members and adults are included so that they may test their ability to recognize animals that produce the best carcasses. Data obtained from the carcasses are also usually made available to exhibitors.

**Breed Evaluation Programs**

Within the last year the two major breed associations, the American Angus Association and the American Hereford Association, have announced carcass evaluation programs. The objective in both instances is to identify sires that produce cattle with high quality, meaty carcasses. The Angus Association has adopted a three-phase program called the Angus Herd Improvement Record. The three phases are: (1) herd classification, which is a type score based on general appearance, beef character, and breed qualities; (2) production measure, or a performance measure based on weight and grade; (3) carcass evaluation based on cutability and quality.

Some overall aspects of their carcass evaluation program are as follows. Sire evaluation will be based on six progeny. This can be made on a cumulative basis but the nomination of a calf for the carcass evaluation program must be made at the time of weaning. The slaughter and cutting costs are the breeder's responsibility and all data will be the property of the American Angus Association.

The Association will also require that the following on-test procedure information be submitted: (a) the level of nutrition and the exact ration fed and (b) the name of the cooperating packer or agricultural college. This information is to be supplied well in advance of the slaughter
date for each animal. All of this information is to be furnished on forms which will be supplied by the Association.

It is also prescribed that the slaughter test animals be within a weight range of 850 to 1100 pounds for steers and 750 to 1000 pounds for heifers. They feel that the test animals should produce Choice grade carcasses.

The carcass data to be obtained and submitted, using prescribed cutting procedures, will be carcass weight, USDA carcass grade, marbling score, fat thickness over the rib eye at the 12th rib, loin eye area tracing (between 12th and 13th ribs), weight of trimmed wholesale round, hide weight, GI tract (if practicable) and the kidney knob and suet weight.

In cases where the cooperating packer does not "break" carcasses, only the weight of the trimmed wholesale round and a rib eye tracing is required.

The featured highlight of the Eighth Annual Angus Conference being held this week at the University of Idaho, Moscow, will be a demonstration of carcass evaluation and an explanation of how the Association's carcass program will be carried out. Five progeny groups of five steers each are on feed at the University. They are from herds which have already completed the first two phases of the Angus Herd Improvement Record. Four steers in each progeny group will be slaughtered before the conference and the remaining live animals will be viewed by the crowd in an evaluation session. The five representative samples will be slaughtered and the carcasses will be studied on the last day of the meeting. Loin eye area, fat thickness, carcass grade, and estimated yield of retail beef from the four major wholesale cuts is a part of the information which will be available to those attending.

In March of this year the American Hereford Association announced a program which they say is a "comprehensive and inexpensive industry-wide feed lot and carcass evaluation program for herd sires." They further state that one of the unique features setting this program apart from most other evaluation programs is that all feeding of participating cattle will be done in specified feed lots under uniform conditions. Some of the stated objectives of this program are (1) to provide Hereford breeders with a standard, practical, inexpensive and effective procedure for a more comprehensive evaluation of herds and herd sires, (2) to provide reliable information on an industry-wide basis which will not conflict or contradict established State programs and can be used to supplement them, (3) to offer Hereford breeders an additional tool for evaluating herd performance. A Hereford breeder, to participate, must deliver within a two-year period to a specified feed lot eight head, preferably four steers and four heifers by each sire to be tested. Calves are to be delivered between six and nine months of age. The sire's progeny must be born within 18 months of each other, thus allowing the selection of the test animals from two calf crops. Steer calves must be castrated before 150 days of age. The calves will remain on test until heifers have reached a weight between 800 and 950 pounds and steers between 950 and 1100 pounds. The American Hereford Association agrees to contract for feeding the cattle in a reputable feed lot at a specified cost consistent with current charges. They will also
arrange with a reputable slaughterhouse to slaughter all test cattle and
the following information will be obtained and furnished to the cooperating
breeder: (1) hot carcass weight; (2) USDA official grade; (3) marbling
score; (4) loin eye area; (5) fat measure over 12th rib; (6) percentage of
trimmed round—or other carcass measurements that research or experience
justifies. Carcass cutability will be calculated and will serve along with
marbling and grading score as a primary measure of carcass excellence after
correcting to a per day of age basis. The carcass evaluation will be super-
vised by prominent research personnel. We understand that this testing pro-
gram will get under way this fall.

To obtain part of the information presented in this paper I con-
tacted all of the major breed associations. At the present time the Ameri-
can Shorthorn Association and the American Polled Hereford Association do
not have a carcass evaluation program. Several other associations stated
that their breeders are keeping their own progeny records and are doing
some carcass evaluation.

The Red Poll Cattle Club of America submitted a rather extensive
carcass evaluation program to their Board of Directors at a meeting on
March 24, in which they suggested setting up certain minimum carcass re-
quirements on fat thickness, loin eye area, carcass weight, and quality
grade.

The importance of measuring carcass desirability got a big boost
last June 20-21, 1931, when the Performance Registry International Organ-
ization adopted beef carcass certification standards at their annual meet-
ing. These standards were based on carcass information on 1223 carcasses
weighing between 450 and 700 pounds as furnished by the Texas, Oklahoma,
Ohio, Montana, Tennessee, and Louisiana Experiment Stations and the
Standardization Branch, Livestock Division, U. S. Department of Agriculture.

The Performance Registry requirements are as follows:

I. Eligibility

Nomination for certification is restricted to steer
carcasses 475 pounds or more warm dressed weight and 16
months of age or less.

II. Standards for Qualification

A. Rib-eye area - minimum of 2.0 square inches per hundred-
weight (warm carcass weight) at lightest weight but
adjusted downward at heavier weights.

B. Average fat thickness over rib eye (3 measurements) -
Not more than .13 inches per hundredweight (warm car-
cass weight)

C. Marbling - Minimum of "small" amount according to USDA
marbling illustrations.
III. Alternatives

A. Requirements for rib-eye area and fat thickness are waived if the closely trimmed, boneless roast and steak cuts from the rib, short loin, loin end, round with rump, and square cut chuck from the left side total 48% or more of the chilled side weight.

B. Marbling requirement is waived if the mean shear force value from four 1/2-inch cores from a 1-inch steak from the 12th rib area cooked to 70° C. internal temperature does not exceed 8 pounds. Not more than 3 days' aging will be allowed, and aging cooler temperature must be set at 40° F. or below.

It is felt that approximately the superior one-third of the beef carcasses now being marketed would meet these standards. It was thought that this would be demanding enough to insure progress, yet attainable enough to encourage producers.

I understand that, as yet, requirements have not been adopted by the Performance Registry International for certified meat sires. Dale Lynch, Secretary of that organization, stated last year that he believed that a minimum of ten steer progeny will be demanded for such a program.

(Appause)

MR. COLE: At this point we want to discuss the papers on trends in beef carcass evaluation and we are ready to entertain any questions you might have.

MR. JAMES GUENTHER: (Oklahoma State University) Just to start the thing rolling. Mr. Tyler -- I quote him a little bit here -- said he's looking for a standard, inexpensive and noncomplex method of obtaining more comprehensive data on which to evaluate bulls. What do you consider inexpensive? How expensive is inexpensive?

MR. TYLER: I was quoting there. That's what the American Hereford Association said; and I can't answer that question, of course. You're asking me, personally, what I consider comprehensive standards for evaluating carcasses. I think those standards, as we drew them up or as the conference drew them up last year that are published, are very comprehensive standards; but I was quoting the American Hereford Association.