Meat grading is a specialized form of meat judging. In order to be a competent meat grader, you must first be a competent judge of meat. There is a difference. In the judging of a class of carcass meats or wholesale cuts, you are taught to compare one with another in terms of an accepted ideal and to place up the one with the "most of the best." Grading implies a grouping into well-defined segments according to an ideal or accepted standard for each segment. Proficiency in meat judging can be and often is accomplished without having acquired a very definite conception of grade. The same fundamentals apply to both -- a thorough knowledge and appreciation of the inherent factors relating to both the quantity and quality of meat.

The origin of meat classification and grading probably dates back to the time when man first started trading in this commodity. In appraising the relative merits of the product, the buyer or seller instinctively applied some of the principles of grading. The early markets in this country were highly localized and a distinct vocabulary or terminology developed on each market to describe trade practices and preferences. However, with the growth of large urban areas and development of improved transportation and communication facilities, large competitive livestock markets developed. This created an immediate need for more uniformity in grading of livestock and meats and a terminology that could be uniformly used so that prices between different markets could be equitably compared.

In 1916 the United States Department of Agriculture formulated tentative standards for grades of beef. These standards were originally meant to provide the basis for a National Meat Market Reporting Service. They were further refined and eventually promulgated as the Official United States Standards for Grades of Carcass Beef on June 3, 1926. Since that time grade standards have been extended to include the feeder and slaughter classes of most species of market livestock and meat derived therefrom. It should be emphasized that the use of Federal grades by the industry is on a voluntary basis and in no way compulsory except during periods of national emergency when they have been made mandatory in connection with price control programs. Individual packers may and frequently do use their own system of grading which may be identified by certain brand names. However, the system of grading described herein is necessarily limited to that based on the official grade standards of the U. S. Department of Agriculture.

The Department of Agriculture inaugurated the official grading and stamping of meat in 1927 on a voluntary basis with the cooperative support of the National Live Stock and Meat Board. This service has gradually grown and now is available in practically every large meat processing or marketing center in the United States. It is operated on a self-supporting basis, the necessary funds being derived from fees collected from the users of the service. Grading is available upon the request of any financially interested party.
FACTORS DETERMINING CLASS AND GRADE

Class as used in its broader meaning refers to carcasses or cut derived from the same species or kind of animal and having a similar commercial use. Sub-classes of carcasses within a specific class or kind of meat usually refer to the sex condition of the animal from which it was derived. It is evident that animals producing a specific class or kind of meat will vary from the best to the poorest individual marketed. Certain of these physical characteristics of a class of meat are associated with its desirability or utility. The grouping of carcasses according to their degree or relative development of these desirable physical characteristics constitutes grading. A grade then includes a group or segment of a class of meat possessing a sufficiently narrow range in grade-determining factors to provide for a high degree of interchangeability of individual units.

BASIS FOR GRADE

The basic considerations in grading meat are twofold—(1) to reflect or measure differences in the proportion of the more desirable to less desirable parts of the carcass or cut and the ratio of meat to bone, and (2) to evaluate the characteristics of the meat which are associated with its ultimate palatability. Grade, as a measure of these two basic considerations, is based on these major grade factors—conformation, finish, and quality. However, since the contribution of finish is primarily to influence both quality and conformation, there is merit in simplifying your analysis to two major factors—quality and conformation.

CONFORMATION

Conformation as considered in grading meat refers to the proportionate development of the carcass or wholesale cut and to the ratio of meat to bone. Although primarily a function of the development of the muscular and skeletal systems, conformation is also affected by the degree of finish. Thus, conformation is a direct measure of one major consideration in grading meat—that is, the relative proportion of more desirable to less desirable parts and the proportion of edible to non-edible parts.

QUALITY

The relative desirability or expected palatability of the carcass or cut is expressed in the general term of quality. It is a characteristic of both the lean and the fat contained therein and is the most important criterion of palatability. Quality is measured primarily in terms of (1) marbling, (2) texture, (3) firmness and color of lean, and (4) maturity. Evaluation of certain of these important indices of quality is complicated by the fact that most meat is graded in the unribbed carcass and the cut surface of the meat cannot be observed. Consequently, the grader must learn to associate certain other physical characteristics with these indices of quality. Finish is one of these factors. Finish refers to the proportion, character, and distribution of external, internal, and inter- and intra-muscular fat in the carcass or wholesale cut. The importance of the quantity of finish is often over-emphasized. A smooth, thin exterior covering of fat on a carcass or wholesale cut is certainly desirable, and additional fat in excess of this minimum is usually, but not always, associated with increased palatability of the meat. Therefore, distribution of finish as an indication of quality is important, but excessive external finish alone is in itself an undesirable
characteristic. The character or kind of fat is also important. Firm brittle fats are to be preferred to the soft oily kind--color of fat is not a grade-determining factor. The quantity of intra-muscular fat evidenced as marbling in the cut surface of the carcass, or the external evidences thereof, is the most important role of finish in meat grading.

The evaluation of the degree of maturity is also an important consideration in the determination of meat quality. Maturity, as used herein, refers to the evidences of physiological age in the carcass or cut as distinguished from the actual age of the animal from which the meat was derived. The principal evidences of maturity are obtained from color, size, and shape of rib bones; ossification of cartilages, particularly the "button" on the end of the chine bone; ossification of the cartilaginous connections of the sacral vertebrae; and color and texture of meat.

Finish and maturity may be used as compensating factors in the evaluation of quality. Therefore, within certain limits, the Federal standards allow finish to compensate for advancing degrees of maturity.

By way of summary, excellent quality in meat, as evidence in the cut surface, usually implies a full, well-developed, firm muscle of smooth, fine texture and bright appearance containing a liberal amount of marbling and a minimum of connective tissue.

U.S.D.A. GRADES FOR MEAT

The following tabulation summarizes the applicable grades by class and kinds of meats for which the U.S. Department of Agriculture has issued official or proposed grade standards. Only beef, calf, veal, lamb, yearling mutton, and mutton are normally officially graded and grade stamped.

U.S.D.A. CLASSIFICATION AND GRADING SCHEDULE FOR CARCASS MEATS

<table>
<thead>
<tr>
<th>Class or Kind</th>
<th>Grades</th>
</tr>
</thead>
<tbody>
<tr>
<td>Beef (steer, heifer, cow)</td>
<td>Prime, Choice, Good, Commercial, Utility, Cutter, Canner</td>
</tr>
<tr>
<td>(bull and stag)</td>
<td>Choice, Good, Commercial, Utility, Cutter, Canner</td>
</tr>
<tr>
<td>Calf</td>
<td>Prime, Choice, Good, Commercial, Utility, Cull</td>
</tr>
<tr>
<td>Veal</td>
<td>Same as calf</td>
</tr>
<tr>
<td>Lamb</td>
<td>Prime, Choice, Good, Utility, Cull</td>
</tr>
<tr>
<td>Yearling mutton</td>
<td>Same as lamb</td>
</tr>
<tr>
<td>Mutton</td>
<td>Choice, Good, Utility, Cull</td>
</tr>
<tr>
<td>Pork carcasses - (barrows and gilts)</td>
<td>Choice No. 1, Choice No. 2, Choice No. 3, Medium, Cull</td>
</tr>
</tbody>
</table>

1/ Cows are not eligible for the Prime grade.
Beef is graded on the composite evaluation of the previously mentioned two major factors -- conformation and quality. The student meat grader will find his job simplified by analyzing each carcass or cut in a logical sequence. The particular order in which the analysis is made is not of great importance, for several observations may be made simultaneously. However, a definite check list will prove useful. The following determinations should be a part of the analysis of grade:

(1) Class or kind of meat
(2) Sex classification (if applicable)
(3) Quality grade as evidenced by indications on the inside of the carcass.
(4) Grade on conformation
(5) Final analysis or composite grade

First, the class or kind of meat should be determined -- beef, veal, or calf, if from the bovine species.

Second, the sex classification should be made if important in that particular kind of meat, and it is essential in beef. The U.S.D.A. grades for steer, heifer, and cow beef are combined under one standard. Hence, sex classification as related to these standards is not usually important except that cow carcasses are not eligible for the Prime grade. However, a separate set of grade standards exists for bull beef and still another standard for stag beef. Therefore, the latter two sub-classes are shown as a part of the grade stamp on the carcass.

Sex condition or sex classification is an integral part of beef grading. The following definitions cover the major factors in determining the sex condition of beef:

Steer carcasses are recognized by the typically rough and rather irregular fat in the region of the cod, the relatively small pelvic cavity, small "pizzle eye," a curved aitch bone, and the typical "bald spot" or lean area above the aitch bone.

Heifer carcasses are identified by the very smooth fat in the region of the udder and a slightly larger pelvic cavity and straighter aitch bone than is typical of steers. As a group, they tend to be slightly more angular than steers and slightly less thickly fleshed.

Cow carcasses are identified by their large pelvic cavity and nearly straight aitch bone. The udder is usually removed but when present is usually "wet," showing evidence of lactation. The hips are usually at least slightly prominent. The bones of older cows are usually hard and white and the cartilages on the ends of the chine bones are often completely ossified.

Bull carcasses are identified by extremely bulging rounds, heavy crested necks, thick shoulders, and a large prominent "pizzle eye." The flesh is quite dark and coarse.
Stag carcasses usually have characteristics somewhat intermediate between steers and bulls. The typical stag exhibits slightly thick rounds, a slightly thick neck and a pronounced crest, a slightly large "pizzle eye," and in the cut surface the meat appears somewhat dark and slightly coarse.

After class or kind and sex condition have been determined, the next step is the evaluation of quality. This is determined primarily from the inside view of the unribbed carcass. Simultaneous with the observation of the inside of the carcass to determine class or kind (beef, calf, or veal) and sex condition, the degree of maturity of the carcass should be noted. Other quality indications of a carcass can only be evaluated after the degree of maturity has been determined. Carcasses from very young animals are characterized by soft, porous chine bones which terminate in soft, pearly-white cartilages. Rib bones are somewhat narrow and red. The sacral vertebrae show distinct separation, and cartilage is present on the split aitch bone. Flesh from such young animals is usually fine and smooth in texture and usually rather light in color. Carcasses from animals with evidences of advanced maturity or old age may have white, flinty chine bones with cartilages completely ossified, wide, flat, white rib bones, and complete ossification of the cartilaginous connections of the sacral vertebrae. The cut surface of the meat exhibits a rather dark color and coarse texture.

The other principal indications of quality in the unribbed side to be observed are the "feathering" between the ribs, overflow fat, fat covering over the skirt and flank, and the protrusion of fat between the chine bones; they are important primarily because of their association with the degree of marbling. The aforementioned indices of quality are useful in evaluating the unribbed side. In the event that "the book has been opened" by ribbing the carcass, the appearance of the rib eye is sufficient for evaluating quality factors other than maturity. Based on a consideration of all the factors affecting quality, you arrive at a quality grade.

The fourth step should be the evaluation of conformation. Actually an impression of conformation may be the first observation, but its final appraisal must be made with full knowledge of the class and sub-class. Conformation of the carcass should be determined from both the side and the back with the observation being made while standing 10 - 12 feet away from the carcass where conditions permit. Thickness in relation to length and depth is one of the major indices of conformation. Particular attention should also be given to development or fullness and meatiness in regions of the more valuable cuts -- loins, ribs, and rounds. The final evaluation of conformation should be in terms of U. S. grade - i.e., conformation equivalent to low Choice, etc.

The last and final step is that of deriving a composite grade to represent both quantitative and qualitative observations. This is, obviously, the most important step, and also the most difficult. The grade standards could not possibly indicate the balancing of the numerous combinations of characteristics that exist. They do, however, indicate by certain limiting requirements the relative importance of grade factors.
BALANCING OF GRADE FACTORS

The grade standards for beef reflect a difference in the relative importance of conformation or quantitative factors and quality considerations. For example, standards for the Prime and Choice grades emphasize the importance of quality in these two grades. The underlying theory back of this fact is that beef of these two grades is utilized largely by hotels, restaurants, and individual consumers whose major interest is the quality of the meat. Superior conformation which would result in a higher proportion of edible to inedible portions would not sufficiently compensate for a lowering of quality requirements for this group of consumers. Therefore, regardless of the excellence of conformation, a carcass must meet the minimum quality requirements specified for the grade to be eligible for Prime or Choice. Superior quality may compensate for deficiencies in conformation in the Prime and Choice grades on about an equal basis — that is, a carcass with average Choice conformation and average Prime quality may be graded low Prime. Fortunately, there is a fairly high correlation between the excellence of conformation and quality in beef carcasses. However, it is the exceptions that test the judgment of the grader.

As previously indicated, this application of compensating values between conformation and quality changes somewhat in the lower grades. The Good grade, and to an extent the Commercial grade, represents a segment of beef in which the usual consumer-buyer is still interested in a minimum level of quality but is becoming almost equally concerned with the quantitative consideration or ratio of edible to inedible portion. Therefore, the Good grade is the highest grade in which conformation superior to the minimum required is allowed to compensate for a deficiency in quality, and here only to the extent of one-third of a grade. This trend in compensation continues in the Commercial grade. In the Utility, Cutter, and Canner grades, conformation becomes increasingly important the lower the grade.

GRADING OF VEAL AND CALF

Most of the information on beef grading is directly applicable to the grading of veal and calf. The same general analysis is applicable to veal and calf except that sex classification is usually not a factor. Veal, calf, and beef represent different stages of maturity of the bovine species. Although the physical evidences of maturity in carcasses undoubtedly change slowly and very gradually, definite lines of demarcation must be established between veal and calf and between calf and beef. At the borderline between classes, the transition from one class to another has no influence on the final grade. For example, a carcass with characteristics indicating it to be strictly borderline between veal and calf should carry the same grade regardless of whether it is classified as veal or calf. Trade preferences for either veal, calf, or beef in specific areas are most pronounced and the correct determination of class is a very important but difficult part of grading. The most useful characteristics for determining class within the bovine species are color and texture of lean, character of fat, development and color of bone, degree of ossification of cartilaginous connections, and carcass size. These physiological characteristics are influenced by many factors, such as feed and management, and all may not be evident in a given carcass to the same degree. Hence, there will be some overlapping in certain factors, such as color of lean, between these three groups and the final determination must represent a composite evaluation of all factors.

Color of lean is the most important single factor in differentiating between veal and calf. Veal varies from very light pink in young veal to a
dark grayish pink in veal showing evidences of maximum maturity. The flesh is usually soft and smooth and fine in texture. Veal has a rather soft, pliable character of fat, and the rib bones tend to be narrow and very red. Typical veal carcasses usually weigh under 100 pounds but if near maximum maturity they often weigh up to 150-175 pounds in the higher grades. Calf carcasses with maximum maturity for the class have a fine texture of flesh that is usually not more than moderately red in color, the rib bones have at least a small amount of red and only a slight tendency toward flatness, and there is at least a slight flexibility in the cartilages at the junction of the ribs and breast bone. In split carcasses the cartilages on the ends of the chine bones are entirely cartilagenous and the sacral vertebrae show distinct separation. Such carcasses are not noticeably "spready" or "barrelly" in appearance and their chilled weight, hide off, rarely exceeds 350 pounds in the higher grades.

Since veal and calf carcasses rarely have excessive quantities of outside finish and frequently are deficient, it is necessary to emphasize minimum outside covering to a greater extent than in the grading of beef. Therefore, veal and calf carcasses have a decidedly lower percentage of fat than comparable grades of beef with a resulting influence on conformation requirements. Choice veal lacks the plump appearance of Choice calf and Choice calf lacks the fullness of Choice beef because of a lower proportionate quantity of fat. As compared with beef, veal carcasses in particular tend to be more variable in their relative development of conformation and quality factors. This is reflected in many veal carcasses being much more highly developed in quality than in conformation and is associated with the production of milk fat vealers largely of dairy breeding. Although this situation has no direct bearing on the formulation of grade standards, it does further complicate the grading. Veal and calf carcasses are normally graded in carcass form and the carcass is usually unsplit. Therefore, there is seldom an opportunity to view the cut surface of the meat. Such factors as texture, color of lean, marbling, and maturity will usually be evaluated in the unsplit and unribbed side.

**BALANCING OF GRADE FACTORS**

The official grade standards do not attempt to describe the numerous possible combinations of characteristics for each grade nor do they indicate a difference in relative importance of the factors in determining grade. In the actual application of the standards the compensation between conformation and quality factors is accomplished much the same as it is in beef. In all grades, quality in excess of the minimum requirements of a grade is allowed to compensate for a deficiency in conformation. This type of compensation is warranted to a somewhat greater extent in the higher grades than it is in the lower grades. The reverse type of compensation -- that of allowing superior conformation to compensate for inferior quality -- is conceded in only the Good and lower grades. The relative role of conformation becomes increasingly important the lower the grade.

The standards specify only one degree of fatness for each grade of veal and of calf. However, this degree of fatness applies only to carcasses of average weight and maturity. In order to qualify for any particular grade, heavier, more mature carcasses are required to have a somewhat greater quantity of fat and lighter, younger carcasses somewhat less fat than that specified.
GRADING OF LAMB AND MUTTON

Lamb and mutton are also graded on a composite evaluation of two major factors - conformation and quality. The same general principles outlined for the grading of beef, veal, and calf are applicable to the grading of lamb and mutton. The determination of class is the first step in the grading of lamb and mutton. The Federal grade standards recognize three classes which represent three distinct stages of maturity of the ovine species - lamb, yearling mutton, and mutton.

The sheep industry has rather well defined and generally accepted definitions for slaughter lambs, yearlings, and mature sheep in terms of actual age or as indicated by the stage of dentition. Determination of each of these three classes in the carcass is made on the physical evidence of maturity associated with the various age categories. Major emphasis is placed on the ossification of bone, color of bone, color of lean, and to a certain extent the conformation of the carcass. Classification of ovine carcasses is one of the most difficult phases of grading for there is often some overlapping of factors. The final determination of class must represent a careful composite evaluation of all factors. The following definitions may be useful in class determination:

Lamb carcasses always exhibit the characteristic "break joint" on their front shanks and the break joint is usually moist, fairly red, and the "ridges" are well defined. The rib bones are usually narrow and show at least a moderate amount of red. Lamb carcasses are rather straight lined or regular in contour and have a light color and fine texture of lean.

Yearling mutton carcasses may have either break joints or spool joints on the front shanks. They usually have moderately wide rib bones with only traces of red in the ribs and shanks. They often exhibit a slightly irregular contour with a tendency toward a "spready" or "barrelly" appearance. They usually have a slightly dark color and coarse texture of lean.

Mutton carcasses always have spool joints on their front shanks and generally have wide rib bones that are devoid of red color. They tend to be somewhat irregular in contour and usually present a pronounced "spready" or "barrelly" appearance. The lean is generally a dark red color and is coarse in texture.

The Federal grade standards for the three classes of ovine carcasses are applied without specific sex identification. However, carcasses which show the heavy shoulders and thick necks typical of ram carcasses are penalized in grade in accordance with the extent of the development. Such discounts may vary from less than half a grade in carcasses from young lambs in which the characteristics are barely noticeable to as much as two full grades in carcasses from mature rams in which such characteristics are very pronounced.

BALANCING OF GRADE FACTORS

The evaluation and balancing of grade determining factors in lamb, yearling mutton, and mutton presents a slightly different problem from that in beef, veal, or calf. As in veal and calf, the grader will usually make
his analysis of the unsplit and unribbed carcass and will rarely see the cut surface of the meat. Although the range in age within each of the three classes appears to be rather narrow, each class actually represents a rather wide range in maturity because of the rapidity with which ovines mature. That is, a lamb of maximum maturity for the class is relatively much more mature than a veal of maximum maturity. In order to place proper emphasis on this wide range of maturity, the grade standards for lambs specify two different levels of quality according to the degree of maturity. This principle of compensating increasing maturity with additional evidences of quality is basic to all Federal grade standards for meats.

Finish in relation to maturity -- especially distribution of finish -- is perhaps the most important part of quality determination in the grading of lamb, yearling mutton, and mutton. Although the Federal grade standards do not attempt to describe the numerous possible combinations of characteristics that are eligible for a given grade, they do indicate the degree of compensation between so-called quantity and quality considerations. The standards for both Prime and Choice grades place major emphasis on quality. Again, regardless of the superiority of conformation, a carcass must have the minimum quality requirements specified for the particular grade to be eligible for Prime or Choice grade. Superior quality may compensate for conformation inferior to the minimum acceptable for the grade on about an equal basis in both Prime and Choice grades. That is, a carcass with average Choice conformation and average Prime quality may be graded low Prime. This relationship changes slightly in the lower grades - Good and Utility - with conformation assuming approximately equal compensating value with quality.

SUMMARY

This discussion on grading has been limited to the classes or kinds of meats which are normally federally graded by the U. S. Department of Agriculture. Study of the official standards for grade for each class along with this information on interpretation of the standards should provide the student-grader with a visual picture of the grading operation. Proficiency in grading can only come from a thorough knowledge of fundamentals and intensive practice in grading under the direction of a competent instructor.

MR. PIERCE: Now, in this discussion we have attempted to outline the material that we think the student interested in meat grading should familiarize himself with on each class, before he goes into a study of the grade standards.

After discussing this with your committee last night, I think there would be some definite advantage in following up each discussion with a definition of the various grades. In other words, just the bare minimum material describing grades: prime, choice, good, etc. should follow each discussion on beef, veal, calf, lamb and mutton. Along with that, I think it would be highly desirable to use as many illustrations as possible. We have some illustrations here that we will be glad to make available. Most of these are in color. We have attempted to depict carcasses with minimum characteristics for the various grades.
We would suggest that the carcasses be of minimum maturity or rather the youngest eligible for the particular class, and those with maximum maturity for the class should be illustrated if at all possible.

We discussed this matter of colored photographs last night. I think it is coming up again later on.

That is all I will say about it except to say that we could furnish photographs of this type for beef, veal, calf, lamb and mutton.

MR. WAITERS: Thank you very much, John, for that fine report on what might be incorporated into this manual on the grading phase.

I think, inasmuch as it is desirable more or less to whip the loose ends together as we go along, we should throw the floor open for discussion on John's paper, and for those comments or suggestions which you have jotted down on your note pads up to this time. I am sure you have some good ideas to offer and, as I mentioned earlier this afternoon, those ideas we consider of inestimable value in helping this committee to put together the kind of a manual which you think we should have. Are there any questions or suggestions?

MR. MACINTOSH: In connection with the colored photographs, I should like to refer to the standard or standards published in December, '50, U. S. 11 Descriptive Terms for Marbling. Will it be possible to have colored pictures that depict those different stages of marbling? I think that is one of the problems confronting all of us, even those of us who try to do some grading in experimental work, that is, differentiating between those 11 descriptive terms.

MR. PIERCE: That is certainly a very pertinent point. As you people know, we have been working on this colored photograph business for two or three years, perhaps longer, and we have books of actual photographs out with our grading supervisors. Unfortunately, we have not been able to hit on a method of reproduction of these colored photographs that we consider satisfactory for general distribution. However, there is a film strip available, as you know, which I don't think is quite as good as the actual photographs but includes the same pictures.

In direct answer to Professor Mackintosh's question, I believe we have in these photographs, if we have so indicated, all the degrees of marbling that the standards mention. We have identified many of the pictures for our own use, that is, for use of the supervisors in terms of what the pictures represent as a specific degree of marbling. That could be made available to the same extent as you reproduce these pictures. In other words, that can be a consideration.

MR. COLE: While I am on my feet there are two things. One of them is in this book I should like to see something more specific in telling heifer from cow beef and cow carcasses other than generalities. I should like to see maybe some step by step methods, because I think there is not a contest that we have had that our boys haven't lost a point. They can tell a male from a female, but it is a cow from a heifer that gives them trouble.
Before I sit down I should like to say one other thing. The term "lard substitute" was used this morning, which I don't think we as meats men should tolerate. I don't think there is any substitute for lard, and I don't think we should use any such terminology as a lard substitute. Maybe we should say "lard and shortenings," but certainly not a lard substitute. I am of the school that thinks lard is a pretty good product and there is no substitute.

MR. PIERCE: On the first point he brought up, I am sure that it is worthy of a lot of study and effort on the part of all of us. Maybe it was a good thing I skipped over my definitions a while ago because perhaps they are not well accepted. Certainly they don't delineate too definite a method of distinguishing, I must say.

I will read them now, Bill, that you have nailed me to the cross on this, and if it does not do the job that you want, maybe it will help.

(Mr. Pierce then read his definition of a cow carcass.)

MR. PIERCE: I am sure that could be improved upon. Would you buy that definition of a cow carcass?

MR. COLE: I think you are speaking of a cow that is easy to identify. I am talking about a cow that is hard to identify.

MR. PIERCE: I know you are.

MR. BUTLER: We don't get that usual cow. That is the trouble.

MR. PIERCE: Well, steers, heifers, and cows are all graded on the same standard. Why worry yourself with it?

MR. COLE: Two points.

MR. PIERCE: Well, maybe that is one you can change in your contest regulations. I offer this definition not as a means of determining that unusual cow, but to see if you have any suggestions for improving it. I am thinking primarily that the boys who use this material will be interested in generalities, and it is up to you guys to teach them the fine points.

MR. BUTLER: There is one thing. We have been waiting a long time for these pictures. I am glad to know that we may be able to get them. But I am wondering if when you enclose them it would not be desirable to have at least a short discussion of each of the photographs, bringing out the points that you took the pictures to emphasize, because some times to the uninitiated it would not be very evident.

MR. PIERCE: That would be essential, I am sure. There would have to be appropriate legends.

MR. BULL: When you talk about pictures in this manual, are you referring to these colored photographs?
MR. PIERCE: Not necessarily. That is a determination this committee and conference will have to make. I merely mentioned that the pictures could be available if it was determined that they wanted to use colored photographs.

MR. BULL: It costs money.

MR. PIERCE: That is right. Perhaps good black and white pictures would do.

MR. SOULE: I should like to know, if this meat judging manual is accepted, when it is going to be available. Is it going to be available for this fall?

MR. WALTERS: We will have a few words to say about that just a little later. Are there other suggestions, comments, suggestions, or what have you on John's paper on grading?

If not, let's turn our attention to one of the big jobs, possibly one of the biggest jobs in putting a manual of this sort together, namely, that of providing for adequate illustrations of all kinds, whether they be sketches, free hand drawings, pictures, or any other needed illustrations along that line.

Bob Henrickson is going to say a few words with references to the problem that the committee is up against in illustrating this manual.

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(The discussion which followed on the meat judging manual is not included in this report. However, a copy of the discussion is in the hands of L. E. Walters, chairman of the Meat Judging Contest and Manual Committee, and another in the offices of the National Live Stock and Meat Board.)

MR. HENRICKSON: The committee is of the opinion that such material as you have seen in this volume, along with a more highly screened nomenclature for parts of cuts and parts of carcasses, with grading can possibly be available in mimeograph form -- and this I emphasize -- after considerable editing and reworking before September 1, '52. It will be quite an undertaking, but I feel, and the committee has expressed the opinion, that it will be possible to have it ready by that time.

On that basis, Bob, I think I will turn the meeting back to you. If this is information as to what you want, then this committee will do as instructed on getting the material further refined.

CHAIRMAN WAY: Do I understand now, Lowell, that you have enough information from this group to go ahead with the general principles as you have outlined them?

MR. WALTERS: I think so, Bob.
CHAIRMAN BRAY: Do you want any form of approval on the part of
the conference on the judging material that you have presented?

MR. WALTERS: I am wondering if we might include along with that
the material on grading, with the understanding that appropriate illustra-
tions for both sections will come along as was the expression of this
group a few moments ago in the motion which carried by a majority.

CHAIRMAN BRAY: I think we appreciate the real problem that
Lowell and his committee is up against here, and I think he has come
forward with some very definite suggestions for progress. I personally
think it is an excellent idea to have this in mimeograph form so that we
can work with it during the fall, and possibly at International time some
of us can get together and give you some final recommendations on how we
think it might be changed. To get it into action is the best test. Fol-
lowing that, Lowell, it is your plan, then, to get it in published form?
Is that right?

MR. WALTERS: It would be the wish of the committee to know
your suggestions. The idea behind getting out this mimeographed edition
this fall would be to give each of you time enough to kick it around and
to digest it while you are using it. Does it work? Does it fit? Does it
get the job done? If it does, then I think this committee is ready
to go to work and get it in final form for it to be published. If,
after having digested it thoroughly through and by its use in the coach-
ing of your teams this fall, you say, "No, this isn't quite what we need,
we need something else," then I think is the time for the readjustment
of the plan in order to present most effectivly what is needed in the way
of the manual.

MR. MACKINTOSH: Mr. Chairman, knowing that there is a large
demand, particularly on the part of our younger members, for some speci-
fic information to use as a guide in training judging teams -- I will
not say anything about the ultimate end use of it, but for training
judging teams, because we lack that material very much and there is a
great need for something, I should like to make a motion that if it is
possible this committee prepare in mimeographed form its progress report,
I guess you might call it, for distribution to all the schools this fall.
The individuals in those schools can then offer much more concrete
criticisms after trying to use it, and the committee will be greatly
benefited because I am quite sure that anything we may prepare is going
to require a lot of revision before it is put out in the form of a
published text.

As a matter of fact, the first copy of most texts should be
junked as soon as they are printed and only one copy saved for revamping.
I think this mimeographed copy would serve such a purpose. Tom went
through that process and I think it was a good one. I think we are go-
ing through the same process here, and I do not know how we can get it
before a large group better than to prepare that mimeographed copy as a
progress report for us this fall.

I should like to make that motion so they will have something
to go on.

(The motion was seconded by several members.)
CHAIRMAN BRAY: I will try to simmer that down into a motion. You correct me if I am wrong on this. The motion is that the Meat Judging Manual Committee prepare in mimeographed form this judging material to be available for us this fall, and after using the material we then make suggestions to the committee. The motion was seconded. Any discussion?

MR. ZIEGLER: Who stands the expense of the mimeographing?

MR. WALTERS: Oklahoma A. and M. will stand the expense. Seriously, we will take care of that. We can take care of that end of it. It will be rather voluminous, but we will do it for the good of the cause.

CHAIRMAN BRAY: Thank you. (Applause)

Any further discussion on the motion? All right, you have heard the discussion. All those in favor of this motion signify by saying "aye"; opposed. (Carried)

Is there anything else that you have to have from this group at this time?

MR. WALTERS: I believe not, Bob.

CHAIRMAN BRAY: All right, let's move in next to the portion of the program which calls for suggestions for improving the meat judging contests, and because Lowell is the chairman of this committee, so closely associated with the Meat Judging Manual and Contest Committee, I am going to turn it back to him.

MR. WALTERS: Let's have a seventh inning stretch.

(Brief recess)

MR. WALTERS: Gentlemen, we are honored this afternoon to have with us a member of the National Live Stock and Meat Board, a man whom probably most of you know, Mr. John T. Caine, III, who is the General Manager of the National Western Live Stock Show in Denver. Mr. Caine, we are very happy to have you with us this afternoon, and we should like to hear from you at this time.

(Mr. Caine discussed the possibility of starting an educational feature at the Denver Show in the form of a stock judging contest to demonstrate carcass value. He pointed out the need for this type of work with the ranchman and asked the Conference for suggestions.)

MR. WALTERS: Thank you, Mr. Caine, for those remarks. I think the points you made are well taken by a group such as this.

According to our printed program we are to consider at this time improvements for our meat judging contest. I think that Mr. Caine brought out a cardinal point here, one to which we should all possibly give more thought. At least I am sure that I should. That is tying the meat a little closer to livestock production itself. It seems to me that in the final analysis in the work that we are doing on this judging, grading and identification manual, for example, we are doing a teaching job. We are not necessarily only coaching teams. We are building livestock men through the
evaluation of the end product of breeding, feeding and management. There is certainly a point there that to my mind deserves a lot of consideration.

The floor is now open for discussion relative to the improvement of the judging contests related to this particular group.

MR. MACKINTOSH: I should like to ask Mr. Caine a question. On at least two occasions in the past this group has discussed the possibilities of a meat judging contest identical in nature to that held at several of the other shows in connection with the Denver Show. I do not know that the subject has ever been brought to your attention. I don't know that it has progressed that far. But what would the possibilities be of having such a contest at Denver?

MR. CAINE: We think we could have a contest like you have at the other shows at our show. It all depends upon the cooperation we can get from the packers, but we feel that there is a possibility of it. That is all right, but we think we ought to have something that would go further than just the students who are coming out there. I should like to get something educational for all those people who come to the show, trying to learn something about the livestock industry. That is why we would like to include if we can something that would be of value -- of a little more value to the rangeman and the stockman than the contest. The contest does wonderfully well for your students. It is fine. Just as our wool contest does, our stock judging, and all the others that we have.

I don't know all the details of it. Maybe we could combine the two, and have a little scheme at the National Western that is just a little different. Maybe we could combine something with your meats work. But if the group would rather have the straight meat judging contest there, of course, we can see what we can do on that. We might be able to do it.

MR. D. H. WILLIAMS: I was looking at Bob Bray and he was nodding to me to speak of a little device, Mr. Caine, that we have used in some of our shows at Wisconsin.

At our junior show, particularly at one a few years ago, we had what we called a carcass contest. This was with hogs. It could be conducted with beef calves just as well. In this contest inasmuch as we had about 20 counties participating we invited the county agents in each county to nominate a boy to bring in a barrow in this carcass contest. We had some special pens set up in the arena where these animals could be penned. Then we invited the exhibitors, the boys, the county agents, and everybody attending the show to take part in the contest.

Bob led off first of all with a demonstration of the new U.S.D.A. market grades of hogs, 1, 2, 3, medium and cull. He had some specimens of carcasses there and he went through the grades. Some times he had the live animals there representing each of the grades. Following Bob's demonstration we gave everyone at the show a score card and they evaluated these animals. I think we had about 15 animals the first time. The folks put a grade on every animal in the ring. They picked out those they liked best, that is, what they considered the top four or five animals.
The animals were then taken over to the packing plant and slaughtered. Bob, with his committee, graded them on the rail. Then they were brought back to the show the last day of the show, so that everyone who took part the first day could see the carcasses.

This little device has worked very well for us, Mr. Caine. We have continued it three or four years now. I think it could be done as well with beef cattle. We tried it with lambs last year and it worked out very well. With hogs it has worked exceedingly well with us as an educational device for the show.

MR. CAINE: That is just about the scheme that we have used. Two or three of the boys who are here who went through our old marketing school remember that we did that quite often. Our great friend, Bill Rennecker did a grand job of showing us all the different grades of hogs and then taking us over and showing us the carcasses and the cuts. That was a wonderful thing and the students -- we had 40 or 50 of them -- all enjoyed it greatly.

What is so difficult in a show like ours is to get some of those things before 10,000 people instead of getting them to only 50. The worry is how we can work it to advantage from an educational standpoint.

MR. WAITERS: Are there any other comments along this line?

CHAIRMAN BRAY: I think, Mr. Caine, that you ought to keep one thing in mind. That is, don't get the numbers too big in terms of livestock. Ten steers are probably just as effective as 20 or 25, because they can remember 6 or 10 whereas they cannot possibly remember each individual if you go beyond that number. If it is an educational feature, a smaller number is something that you should certainly take into account.

I think Lowell has brought up one of the things that we have talked about. I don't know whether or not Ed Kline is still our general spokesman on this subject. But we talked about this as a feature of one of our contests at the International. We have talked about having in addition to our regular meats judging contest another contest the day before our regular contest in which we would take our students into the yards and have them estimate the grade and yield of cattle, lambs and hogs. Then give them an opportunity perhaps the day after the contest to look at the carcasses, perhaps even grading them again and getting a combination score.

I think that possibility needs to be explored at this time. Ed, do you have any comments to throw in?

MR. KLINE: I don't know that I have much to say, Bob. You have kind of opened the subject up. There is one thing, as I think about this meats work. Years ago they used to teach farm butchering in the colleges. I think that we have kind of graduated from that type of education now, but at least in my classes I try to have the students correlate the live animals they slaughter with the carcasses that those animals produce. That is more or less our aim and our goal in teaching our meats work.

I think we are certainly missing a bet because of the students who go out from our agricultural schools, not too many of them will ever see four ribs lined up and place a class of four ribs or a class of pork
carcasses, but every day those boys who engage in agriculture or in the livestock business are going to be looking at live animals, trying to picture the kind of carcasses those animals are going to produce. So I think it is time that we kind of bring our meats contest up to date and perhaps seriously consider the possibility of including a class, as Bob has pointed out, in which we take a few heads of animals and go over them quite carefully alive and then have a chance to see what those animals are like in the meat, because that is the contact that our boys are going to be continually having in their work when they leave school. I think it would be educational not only from the students standpoint, but also from the instructor's standpoint.

MR. NAUMANN: We have used this same plan that Ed has talked about the last two or three years in teaching our meats course. Also we have incorporated it into the block and bridal judging contest that we hold each spring. We have what we call a live hog evaluation contest. It is a requirement of the respective courses of the animal husbandry judging students and the meat students and they must participate. Of course, as a result of this some of our livestock men have learned a tremendous amount about the potential of a particular carcass. Some of their ideas have been changed rather radically, and we have all learned a tremendous amount. I think it is very practical.

MR. CAINE: Have you thought of any scheme by which we could do it at a show?

MR. NAUMANN: Well, I will say I don't know whether it would work at a show. It is very simple. A class of four animals that are rather radically different are picked. A fat one, a long one, a short one, a heavy ham bone, a light ham bone, and so on down the line. All those things are included in this class of four hogs. The animals are judged by these characteristics: Dressing per cent. Length of side. Back fat. Yield of ham. Belly. Loin. And New York style shoulders. Those are all placed 1, 2, 3, 4. It is just merely a placing.

Another consideration is the value of the live hog, on a per hundredweight basis.

They are all placed just as we do in our judging contest.

There are a tremendous number of possibilities, as you can see. I think there are eight or nine different placings and there are twenty-four possibilities in each placing, but it works out quite well. We have a few Joner's every once in awhile. Some of the hogs we pick don't turn out the way we expect them to by far, but we are learning a lot.

MR. D. H. WILLIAMS (University of Wisconsin, Madison, Wis.): An interesting thing in our Wisconsin work, Bob, is that, without selecting four of these particular grades, I don't think we have ever failed just the way the boys bring them in to get the 1, 2, 3 and medium.

CHAIRMAN BRAY: We get everything.

MR. OLIVER: You have been very fortunate. In connection with our state fair for several years we have had -- in fact, I say our state fair -- in our Oregon Swine Growers we had some before the last war. They
would bring their hogs in which would be judged. We would generally have a program along with it, and the spectators would judge them. They were taken to the packing-house right there in Salem, and they would come back in two days and view the half carcasses and the cuts. The cut-out value would be there. They showed a lot of interest and it greatly improved the type of hogs that we are raising.

MR. WALTERS: Gentlemen, I hate to hurry us along but our time is drawing short. I am wondering if you folks are ready or if there needs be more discussion on the proposition which Ed brought up a moment ago. I think it has been talked about on several different occasions, and I am wondering if there is an expression which you might make at this time, one way or another, with respect to this particular kind of a contest or setup.

MR. PIERCE: I could not imagine a more appropriate time, since Mr. Caine has offered to start something new. Why wouldn't the Denver show be the place to inaugurate something new in the way of a contest with the type of work that Ed has discussed? I think it would fit in pretty well with what Mr. Caine has in mind for his educational purpose. It could also be adapted for the ranchers and stockmen cut in that area and they could benefit from it as well as us.

MR. MACKINTOSH: I am heartily in agreement with the idea. A number of us have talked of the possibility for a long time, but we have always been confronted with the difficulty of keeping the students away from school to participate in the live judging and then holding them over a sufficient length of time to work on the carcasses. I am afraid we might get into administrative difficulties at the present time, particularly since the Association of Land Grant Colleges are sort of trying to clamp down on the time that students are away from formal classes.

I might also say at this time to Mr. Caine at the American Royal we have endeavored to have such a class for several years. I think possibly you are somewhat familiar with it. Ten hogs were shown in pens and five were slaughtered. Again our difficulty was getting those who should see the carcasses over to the packing plant to see the final results.

MR. CAINE: They had a contest of that kind here at the International, too, years ago, killing the hogs. The question of the length of time the students will be there is one of the worries that we have in all of our work, of course. If they could do the judging Saturday, when they do their other judging, maybe, or Sunday, and then get the carcasses back Tuesday, that would be about as fast as we could do it. That means, of course, that your boys would have to stay over at least a day longer than they usually do. We might be able to make it faster than that. We don't know. We have thought about it. We might have it ready so you could have it on Saturday and get the animals slaughtered Saturday and see them Monday.

MR. MACKINTOSH: If it was over early enough they could be slaughtered Saturday. Two factors are involved here. One is getting it over on time and the second is the killing.

MR. CAINE: You are right. That is our worry. That is one of the things that we would have to take into consideration, that is, to try to hurry.
CHAIRMAN BRAY: I should like to suggest that we try out at least at one of our major contests this year, either at Kansas City or Chicago, where there will be enough of us to see how it works. If some of us cannot hold our students over, we won't participate this year. But those who can, will participate and see what the possibilities are in it.

I can see the possibility of looking at the animals on Monday morning. You want your boys to look at meats Monday afternoon. Fine! But look at the animals Monday morning and then look at the carcasses Wednesday morning. That is holding them over an extra half day as it stacks up in my book.

MR. WALTERS: Is there any other discussion?

MR. KEMP: Why not have it on an experimental basis the first year instead of incorporating it into the rest of the contest? I think you would have to iron out how you will score and other minor details before adding it to the formal contest.

MR. WALTERS: As I understood Bob's suggestion it would be a separate thing anyway, I believe. Is that correct?

CHAIRMAN BRAY: Yes.

MR. WALTERS: Do you want a motion?

CHAIRMAN BRAY: I will make it in the form of a motion.

MR. KEMP: Second.

MR. WALTERS: You have heard the motion. It has been seconded. All those in favor will reply with an "aye"; all those opposed by the same sign. The motion is carried, and I will leave it to you to appoint a committee to go to work on it.

CHAIRMAN BRAY: All right, I was just going to say I would.

MR. WALTERS: Are there other suggestions or discussions that are on your minds that should come out at this time, before we turn the meeting back to our General Chairman? If not, I wish to express my sincere thanks to the members of my committee and to the others who have offered these timely suggestions for our help in putting together this manual on meat judging and grading.

I will turn the meeting back to the Chairman.

CHAIRMAN BRAY: Some time ago I had a letter from O. D. Butler, who is doing graduate work at Michigan State, informing me that one of our good friends, Lyman Bratzler, is not in good physical condition these days. In fact, he had, as I understand it, a slight stroke and some paralysis with it. He was our first chairman here and he did a wonderful job in getting the conference started off and getting the group divided into the various committees.

I wrote back to O. D., asking him for suggestions as to what we might do to show our appreciation to Lyman for his efforts in getting this
conference started, and also to show our sympathy and hope for his speedy recovery. So at this time I am going to call on O.D. to talk to us a bit about that. O.D.

MR. BUTLER: Thank you, Bob.

I am very happy to report he has made considerable progress toward recovery. He can now walk fairly well with the aid of a cane and he has regained much of the use of his left side, and of his left hand and arm. His morale is good. He regretted having to miss this meeting. I went out to see him yesterday and I proposed that he give me his proxy to use here today, but he would not do it. He said he didn't think I know how to vote, and I agreed with him. But he gave me a few suggestions that we might bring up before the group.

I know that he told me to express the fact that his thoughts will be with us today and throughout the meeting.

CHAIRMAN HRAY: I am going to ask O.D. to prepare a resolution coming from this conference, expressing our sympathy and hope for his speedy recovery. Will you do that?

MR. BUTLER: I surely will.

CHAIRMAN HRAY: I should also like to have you and Ralph Soule work together, if you think there is anything further we ought to do, and if, after taking it over between yourselves and the rest of the group, you come up with some good idea bring it up tomorrow morning. All right, O.D.?

MR. BUTLER: Yes.

CHAIRMAN HRAY: Now we have a matter of business to bring up, and that is the election of a new Executive Committee for next year. As you know, this morning we appointed a Nominating Committee with Al Pearson as chairman. So I am going to turn the meeting over now to Al Pearson.

MR. PEARSON: Mr. Chairman and Fellow Workers: At this time we wish to submit names for your consideration for officers of the Executive Committee for the coming year. It is customary for us to have two carry-overs from last year's group, and today we propose that the carry-overs be Professor R. W. Bray and C. H. Adams. I think it will be necessary to have a vote of confidence in the carry-overs from last year's Executive Committee.

MR. KUNKLE: I so move.

MR. OLIVER: I second the motion.

MR. PEARSON: All in favor please manifest it by saying "aye"; opposed by the same sign, if there be any. (Carried)

In addition we have six names for nominations for new members of the Executive Committee. Each person has been handed a piece of paper and he will have an opportunity to vote for three of these six names.
The first one we have on our list is Professor R. L. Henrickson. Stand up, Bob, so everybody will know who you are.

Second, D. L. Mackintosh. Stand up, Davie. Everybody knows who you are, I know, but stand up.


Lowell Walters -- L. E. Walters. I believe they have seen you before today, Lowell.

V. R. Cahill - Vern.

The last name on our list, J. J. Wanderstock -- Jerry.

MR. MACKINTOSH: Mr. Chairman, is it possible to receive names from the floor in addition to those which the committee has proposed?

MR. PEARSON: I understand it would be possible. Is that right, Bob?

CHAIRMAN ERAY: Yes.

MR. MACKINTOSH: I should like to propose the name of A. M. Pearson for the committee.

MR. PEARSON: I decline the nomination.

MR. MACKINTOSH: A lot of us have thought it over.

MR. PEARSON: I am a long way from the center of things to begin with.

MR. MACKINTOSH: That is why we need someone like you.

MR. PEARSON: We have a good southerner in Bill Cole down there. He was up north and he could not stand the cold winters and so he moved south. With this list, I feel that we have an adequate group. I feel that they are certainly worthy of our consideration, and I ask that each of you write down the names of the three persons whom you would select for officers on the Executive Committee of next year's conference. If you will do that our committee will pick up the ballots and count them.

(Balloting.)

MR. PEARSON: We will now turn the meeting back to the Chairman and go out and count the votes.

CHAIRMAN ERAY: Thanks, Al.

Now, to continue with our program, I just talked to Jerry and he indicates that an hour will pretty well take care of his part of the program. I hope you are all aware of the hard work that Jerry has put into this Research Review Committee project. Last year he made great progress in getting this project started. As I understand from what I have received by mail, apparently the machinery is now in action.

So we are going to call upon Jerry, as chairman to bring to you the current status of the Research Review Committee.
MR. WANDERSTOCK: I am sure we will all get out in good time, because our committee has a very brief report.

The first gentleman who will present some of our results will be Bob Rust, taking graduate work at Michigan State College.

MR. R. E. RUST: The response to our request for abstracting to date has been this: We have fifty six people who are engaged in this abstracting work and up until yesterday we had a total of twenty-eight replies. That is, twenty-three of those replies have been in the form of a number of abstracts sent in. In fact, a total of 119 abstracts to date. That includes six that came in this morning. Two of these replies are from people who are unable to find any information relating to meats in the journals assigned to them, and three of the statements came from people who are unable to find the journals which were assigned to them.

The big question today is how we are going to get more response from the people who are doing this abstracting work, with only 119 abstracts in of the literature since 1946. You have all been given lists of the journals that are to be abstracted and I am sure they contain more than 119 articles. That is the question that we put before you today, and we would certainly appreciate suggestions from everyone here as to how we can improve this abstracting response.

MR. WANDERSTOCK: Are there any suggestions along this line? I might say that we have not been too well pleased with the response. We appreciate the cooperation of those who did send in abstracts. You will remember that I mentioned in the letters that I wrote that this is a cooperative effort and that in order to get the job done we will all have to take time out.

MR. OLIVER: How far back are we supposed to check?

MR. WANDERSTOCK: We decided to go back to 1946 eventually, and we wanted to try to get 1951 completed by today.

I should like to follow through on my previous question now and get the names of the new men who can do some abstracting. Marve, do you want to take down the names as the fellows shout them out?
Leonard, how about you?

MR. Kamm: Yes.

MR. WANDERSTOCK: Leonard Kamm. Anyone else on this side? Mr. Stouffer, and I have Mr. Breidenstein already, I guess. Mr. Young, are you in a position? Mr. Young, yes or no.

MR. Young: No.


As to the question as to which articles we should abstract or where we should draw the line with respect to abstracting, I have asked Marve Voegeli to handle that.

MR. VOEGELI: Thank you, Jerry. We hope we can satisfy the question, on what is to be abstracted. It has been a point of concern to those abstracting at Michigan State. We have had some rather heated discussions on just what we are to include and what we are not to include. We should like to get your opinion as to whether they will be of value to the meats men or whether we are just biting off too big a piece of work to handle efficiently. For example, how about nutrition points, such as feeding of ground beef, that is feeding it to women, or measuring the effect or processes of transfer of heat which might be applicable to work on lard rendering. I don't know whether we can use these or not. Is it applicable to our work?

I might run through some of these foreign abstracts which have been submitted just to see what the reaction of the conference is. This one is entitled, "The evaluation of surface Ph as freshness index for fish fillets." That is another question. Are we going to include fish and poultry? Are we going to restrict it to red meats.

MR. WANDERSTOCK: I think you ought to get a "Yes" or "No" on this.

MR. VOEGELI: Well, maybe you are right. What is the reaction to fish and poultry?

MR. DEATHERAGE: These questions it seems to me are pertinent in a sense, but I think there are more fundamental questions. Are these abstracts to serve a purpose for research workers or are they to serve a purpose for those in the meats field to keep them informed as to what is going on strictly in the meats field? I am thinking, for example, that the American Oil Chemists put out an annual review every year of what is pertinent to the oil chemists. There are two entirely different functions there. I don't think we can duplicate the efficiency of chemical abstracts or of nutritional abstracts or of the British or the Germans, which a research worker must of necessity go to. So I think the fundamental question is, are we going to abstract for the researcher or are we going to abstract meat articles for everybody to keep up a year at a time?
MR. VOEGELI: How do the members of the conference feel? Is it primarily meant for researchers or do we want to cover the field?

MR. KAMM: The researcher is going to want to look over his own research and not trust to articles that we abstract. I think this should pertain just to meat or otherwise you are going to get everything in the Biological Abstracts. You will have in the end just a duplication of that.

MR. VOEGELI: I think one of the purposes of this abstracting is to pull the loose ends together so that the research man has a source to go to for points pertinent to his research.

MR. KAMM: What advantage would it have over Biological Abstracts or Chemical Abstracts?

MR. WANDERSTOCK: It might have the advantage over Biological Abstracts of being more up to date, because, with due respect to Lyman, it does not include too many items. That is not his fault. Chemical Abstracts is rather difficult to use, especially if you want to pull out things on meat. I religiously go through Chemical Abstracts every two weeks and I have a terrible time pulling out meat items.

I should like to challenge Mr. Deatherage, too. With our system we want to try to get as complete a review of work on meat and work applicable to meat as possible, and we would like to get it out twice a year, if possible, so that we will have considerable information. We want to try to get it as complete as possible. We will leave out things, but I am sure we will pull in things that you might not ordinarily see in looking through Chemical Abstracts or Biological Abstracts or abstracts of that type.

MR. DEATHERAGE: Mr. Chairman, I don't think that is quite the argument. For example, say I want to know something about the spectrum of the different forms of hemoglobin. That maybe a very fundamental thing in meat pigmentation or color. But should it be in our abstracts? I don't think we can abstract it. I think we will have to go to the chemical abstracts to get that kind of information. For example, we are interested in determining hydroxyproline as an index of connective tissue. Should that be abstracted?

MR. VOEGELI: How do the other members feel about this?

MR. NAUMANN: I might be sticking my neck out here. I thought that the one basic idea behind these abstracts was to centralize much of the information on meats. Part of that is just merely results. I think another part of that would be methods. Whether it is the best method or not is somewhat beside the point. As to where you are going to draw the line as to whether we put it in the abstracts or not, I do not have any solution. I think, however, we should have fairly closely at hand a reasonably clear picture of the different methods that we might resort to in making a determination of one sort or another and I think perhaps the discussion in previous years would bring that out. We did have that in mind at one time.
MR. WANDERSTOCK: Do you think it would be possible to leave it to the discretion of the individual abstracter? I don't think we can put out a blanket rule and say that if it does not have the word "meat" in its title it cannot be included in our abstractions.

MR. VOEGELI: I think Jerry has probably just suggested what is the most workable means. Are there any other suggestions?

MR. KEMP: I should like to go along with Jerry's suggestion. I happen to be abstracting the Journal of the American Oil Chemists Society, and most of the articles in there are pertaining to lard or oils or something of that nature. If I just looked for the word meat I probably would not have anything, but I pick out the ones I think will be of benefit to some of us. However, I cannot do all if they apply to nothing but cottonseed oil or something of that nature.

MR. WANDERSTOCK: Keeping in mind our abilities, time, and so on, we should try to keep as closely to meat as possible, and I think the committee feels that you should use your own discretion on some of the items in terms of the number of abstracts received this year.

Before we started on this Mr. Pollock asked me if I would estimate how many abstracts we would have every year. As Bob told us, we have at this date received 119 abstracts. I gave Mr. Pollock the figure of 400 or 500 a year. Of course, several of the journals which carry a lot of material on meat have not been abstracted as yet. So maybe instead of 119 the actual number will be much closer to my estimate. However, the National Live Stock and Meat Board, through Mr. Pollock, has indicated that it will be willing to back us financially to the tune of "four to five hundred abstracts a year." If we have the time individually to abstract the items which we think apply to meat, I am sure we can get cooperation in eventually putting the abstracts on cards and having them available at the various institutions.

I might just offer a few suggestions in terms of the abstracts as you fill out the form which we have provided for you. One item is "Date of coverage." We decided at the last meeting not to go back later than 1946. But we have received probably a dozen abstracts which go back -- I think the earliest one is 1929, which you will realize is wasted effort from our standpoint. I wish you would please write legibly or type the abstract. It is a rather difficult job occasionally to make out words. I made a cursory check of a number of them and there are misspellings in authors' names and mistakes in paging, and some times the grammar gets a little mixed up. It is actually easier for you to make the corrections on the ones that you are abstracting than for our committee to go over them and make the corrections. So if you will please check those things before you send the abstracts in to us, we will be very appreciative.

Also will you consolidate the results, instead of, as I have noticed on a few abstracts, just copying verbatim the summary that appears in the paper or the bulletin, 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, and so on? We would appreciate that, too.

You will remember that last time we decided we would like a system using McBee cards.
These are the McBee perforated cards. There are holes on the four sides of the card. One corner of the card is cut, so that when we get a bunch of cards we can just pile them like this. If we get that cut corner on one side, we know we have all the cards right side up. We don't have to worry about what we do with them. We can shuffle them all around. I have a few blanks to make it a larger bunch of cards. I have put abstracts on some of these cards. This one happens to be Dick Wheeler's abstract. The title is on here. All of this information was contained on the abstract form that Dick Wheeler filled out. That is true of the 15 or 20 that I have. The complete information contained on the abstract form is on these cards. Some times we had to go over on the other side.

Then we made an index in line with the subject-matter classification that we drew up the last time and approved. Each hole represents a subject. This hole is antioxidants, Armed Forces bacteriological studies, and so on.

MR. WANDERSTOCK: The last thing we want to discuss very briefly, and then we will be finished, will be discussed by Ellis Pierce of South Dakota.

MR. PIERCE: Thank you, Jerry.

The first point is, do we have any new periodicals which we would like to add to our list of periodicals which we are abstracting? In other words, what recent publications have been put out in periodical form that we should add to our list of articles to be abstracted? That is a question that you probably can't answer right now. But when you get home and get to looking through your publications again the committee would appreciate it greatly if you would let them know if there are any periodicals that we should add to our list. You each have a copy of the list of periodicals which we are abstracting at present. If you have additional periodicals to add to that list just drop the committee a short note listing the periodicals and we can add them to our list.

The second point which we would like to discuss is a little more pertinent at this time and it is one on which we hope we can get some action. That is, when and how often should the abstracts be issued. In that connection, especially the how often part. It is the feeling of the committee that we would like to issue these abstracts on a bi-yearly basis. In other words, twice each year. The question we would like to have the answer to is when should those issues come out? On that I would like to have suggestions from the floor. If any of you have ideas on when they should be issued I would like to have your suggestions. It isn't necessary that we decide it right at the present time. If you want to think this over for a period, I am sure that any written suggestions coming to the committee will certainly be given the consideration that any suggestions from the floor will be given now.

MR. WANDERSTOCK: Tentatively we think we would like to issue them twice a year. July 1, let's say, and January 1. If any of you have any suggestions we will be very happy to have you drop us a line relative to time and frequency. If not, and knowing the outcome of a situation like this, we will proceed on the basis of the judgment of our committee and I know that you will support us in that approach.
Professor Loeffel, who is on our committee and who could not be here, made the point in his suggestions that we should keep up to date on this, because once you have let it drift by a while you will find that you have an awful lot to do to catch up if your particular publications contain many articles on meat.

Thank you very much and we will be very happy to get any suggestions from you and we will be very pleased to have you send us abstracts.

CHAIRMAN BRAY: Thank you, Jerry. As I was sitting there I could not help think of the amount of work that one man has put in on this project already and what little work some of the rest of us are putting into the project. I think I was fortunate in having some journals that did not have too much in them. But at any rate, four or five journals to go over every year does not seem like a very big task.

Now to get along here, I think we ought to have a report of the Nominating Committee. Al Pearson.

MR. PEARSON: The final duty of this committee is very short. We have counted the votes and the additional members of the committee are Lowell Walters, Bill Cole and David Mackintosh.

I thank you, Mr. Chairman.

CHAIRMAN BRAY: Those three new members deserve a hand. (Applause) The new Executive Committee is to serve as the Resolutions Committee and I have a list of resolutions that are to be made that I will hand over to Lowell or to somebody on the Executive Committee.

(Announcements and taking of picture.)

CHAIRMAN BRAY: We will adjourn our meeting now and we will meet back here at seven o'clock sharp.

(The meeting adjourned at 5:00 o'clock.)

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