AN ANALYSIS OF THE PROBLEMS IN PRODUCING AND EVALUATING VEAL AND CALF

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A review of the literature indicates that relatively little research effort has been devoted to veal and calf production, processing, or marketing. This is true in spite of the fact that annually we produce in the United States over 1.5 billion pounds of these combined meats from approximately 13 million animals. The production figure in pounds is twice that for lamb. Wisconsin leads all other states in veal production, producing approximately 1.5 million head, or about twice as many as its nearest competitor, New York.

Before we consider the research problems of these types of meat, I believe it would be desirable to define the terms, veal and calf. The U.S.D.A. Grading Standards for veal and calf carcasses define veal as being derived from the slaughter of immature, milk-fed, bovine animals usually not over 3 months of age, but do not place an age limit on meat considered as calf. The standards do indicate that calf generally is derived from immature animals that have subsisted in part or entirely on feeds other than milk. U.S.D.A. graders, however, have no past production history available on the carcasses they grade and therefore must rely upon differences in carcass characteristics. The chief difference exists in the color between these two classes of meats. Veal is considered to be light in color, being a gray to a pinkish brown in color, while calf is darker, being light tan to a reddish brown.

The veal crop has long been considered as a by-product of the dairy industry and considered by some dairy farmers as a necessary production evil in the path of producing milk. For these reasons little effort on the part of dairy husbandry people has been put forth in the direction of veal research. Likewise those of us working in meats have had the fear of being ostracized if we devoted research efforts to a phase of meats outside that of general animal husbandry interests. Fortunately in late years some efforts have been directed toward the solution of the many veal research problems.

Even though we have some interest in veal and calf research at the present time, I believe that part of the general lack of interest is related to our system of marketing veal. Packers in Wisconsin tell me that the quality of veal being produced is slipping downward and that the eastern market preference for Minnesota and Wisconsin milk-fed veal is likewise diminishing. This can be attributed to either the fact that in general milk prices have been more favorable than veal, or that the differential between the different qualities of veal is not sufficient to pay for the additional milk required for the production of top quality veal. Perhaps both reasons have been in effect, but it seems to me that in Wisconsin the buying of veal calves and the selling of the dressed product on a graded basis has been practically nonexistent. In fact, very
little veal is government graded, and because of the prominence of small packers in veal slaughter, we also have a situation where relatively little veal is being sold on the packer grade basis. Our Wisconsin packers claim that the government grades are not realistic for the bulk of the calves marketed, which are dairy-bred animals. The claim is based on the point that they believe too much emphasis is being placed on desirable conformation in the U.S.D.A. standards, which of course is somewhat lacking in dairy-bred calves. However, the quality of veal seems to be as good or even superior in these same animals. This problem we must leave with the U.S.D.A. Standards and Grading Division of the P.M.A. If this situation is more or less general throughout the United States, then one can readily see that the packer has very little reason to make differentials in price based on grade. However, it should be pointed out that dressing percentage may still make for a differential in price between grades, for generally better grading veal calves will dress higher.

The belief that there is a lack of identification of quality in the retail sale of veal seems to be substantiated by a Wisconsin study of the pricing methods of live calves. Before the study was made a general survey indicated that calves were being sold on either a per head basis, a weight basis, or on a grade and weight basis. The study involved the collection of data as regards grade and yield in an attempt to find whether or not pricing of veal calves was providing equitable treatment to buyer and seller. In other words, it was a test as to the accuracy of estimating grade and yield of these calves. Data were collected on a total of 613 farmer delivered calves at two major packing plants. At one plant the yield was estimated correctly for 14 percent of the calves -- at the other for 7 percent of the calves. At the first plant, 23 percent of the yield estimates were too high (from 1 to 9%) and 63 percent were too low (from 1 to 10%). At the second plant, 11 percent of the yield estimates were too high (1 to 6%) and 82 percent were too low (1 to 11%). There were "misses" of 2 percent or more from the actual yield in the estimates for two thirds of the calves at the first plant and four fifths of the calves at the second plant.

At one plant 61 percent of the estimates on grade agreed with the federal grades, while at the other plant only 33 percent of the calves were graded correctly. The plant with the best record was the only plant in Wisconsin at that time claiming to buy veal on a graded basis. Even though much improvement seemed desirable at that plant, it was also obvious that live grading was not being practiced in the other plant. In fact, it is my opinion that this plant was most typical of the way veal calves were and still are being marketed in Wisconsin.

Marketing live veal calves on a graded basis and carrying this grade identity to the consumer is one of the foremost problems with veal and subsequently has a very pronounced influence on the direction of veal research in the areas of production and processing.

If I were an economist, I could logically stop here in my discussion and conclude that nothing further need be done until our marketing system is corrected. Even though this may be true, we are not generally accustomed to think about only one phase of any of our meats research.
Another fertile area for research lies in the merchandising and processing field.

Two of the problems with merchandising veal at the packer level have been the control of moisture loss and maintenance of desirable carcass color. One solution practiced for years has been shipping carcasses hide on. This is fine except it involves extra shipping tonnage, and an additional loss to the industry through improper skinning and the handling of skins. Several wrappers, as well as gelatin-like dips, have been used, but the problem of packaging carcasses hide off has not been adequately solved.

The form of veal cuts has virtually been unaltered over the years. Since veal contains so much moisture, it often lacks appeal in the retail store. One development, used on lower quality cuts, is the boning and rolling of the shoulder and then dipping it in a gelatin-fat dip. This item is very attractive. We need further to vary and improve the appearance of veal cuts, possibly through canning of legs and shoulder in similar manner to pork, or through boning and molding into appealing frozen cuts. Still another possibility is the development of pan-or oven-ready veal cuts or dishes, such as has been done with breaded veal chops.

Next, what can be done to produce more desirable quality veal? Assuming that the consumer pays some attention to quality indicators in veal, such as color and firmness, and further assuming they are related to palatability, any improvement in these two factors should increase the demand for veal.

We realize that to date no-one has found a substitute for whole milk in the production of high quality veal. Feeding whole milk is at times too costly, especially if a producer is selling through a Grade A milk market. This problem creates a need to find substitutes. At the Wisconsin Station we have had such a project underway. The calves, mostly of Holstein breeding, were assigned to one of our lots. Lot I was given a liberal whole milk ration only, lot II liberal whole milk plus iron and copper supplement, lot III limited whole milk, hay, and calf starter, and lot IV liberal milk replacer, hay, and calf starter. All calves were slaughtered at 6 weeks of age. The following table gives some of the most pertinent data.

<table>
<thead>
<tr>
<th>Lot</th>
<th>Initial wt., lb.</th>
<th>Final wt., lb.</th>
<th>Daily gain, lb.</th>
<th>TDN per lb. daily gain, lb.</th>
<th>Yield, %</th>
<th>Carcass grade</th>
<th>Kidney fat, gm.</th>
<th>% liver (live wt.)</th>
<th>Blood iron, mg.%</th>
<th>Mg. iron per 100 gm. liver</th>
<th>% moisture loin eye</th>
<th>Myoglobin content of loin eye muscle</th>
</tr>
</thead>
<tbody>
<tr>
<td>I</td>
<td>93.1</td>
<td>183.1</td>
<td>2.34</td>
<td>1.45</td>
<td>69.39</td>
<td>Top Choice</td>
<td>617.7</td>
<td>2.2</td>
<td>29.4</td>
<td>3.0</td>
<td>77.64</td>
<td>0.33</td>
</tr>
<tr>
<td>II</td>
<td>95.6</td>
<td>185.9</td>
<td>2.35</td>
<td>1.43</td>
<td>69.29</td>
<td>Av. Choice</td>
<td>557.1</td>
<td>2.1</td>
<td>54.2</td>
<td>12.7</td>
<td>77.49</td>
<td>0.67</td>
</tr>
<tr>
<td>III</td>
<td>98.0</td>
<td>157.5</td>
<td>1.55</td>
<td>1.61</td>
<td>63.46</td>
<td>Top Commercial</td>
<td>212.4</td>
<td>1.8</td>
<td>39.7</td>
<td>5.0</td>
<td>78.31</td>
<td>0.47</td>
</tr>
<tr>
<td>IV</td>
<td>103.2</td>
<td>142.1</td>
<td>1.12</td>
<td>1.66</td>
<td>64.49</td>
<td>Top Utility</td>
<td>100.5</td>
<td>1.9</td>
<td>35.9</td>
<td>5.9</td>
<td>78.52</td>
<td>0.43</td>
</tr>
</tbody>
</table>
This work leaves us with but one conclusion regarding gains and desirability of carcass with the rations studied. The whole milk, with or without iron and copper supplement, produced much higher quality carcasses from animals having significantly better dressing percentage. Since veal liver is a high priced item, it is also of sufficient interest to note the heavier weights of the livers in the liberal whole milk lots. The variation in iron values in the blood and liver is certainly pronounced. The supplemented lot ranked highest, followed by the lots receiving calf starter and hay in addition to either milk or milk replacer. It is of interest to note that whole milk, as expected, had the lowest iron values. The myoglobin content of the muscle varied significantly, and the values were highly associated with the iron values of the liver and blood. These values were such that one could easily pick out visually the samples in lots I and II.

If consumers were to prefer dark-colored veal, we certainly could produce it for them. On the other hand, we know that in order to produce light-colored veal, it must be done with a feed low in iron, such as milk.

I have cited the above work to illustrate the type of research that is urgently needed in veal production. Often in milk-producing areas it is uneconomical to feed whole milk, thus investigations with substitutes are certainly timely. Then, too, I have attempted to point out that in addition to the amount of daily gain, we must concern ourselves with carcass grade and more specifically the factors which determine consumer acceptance, such as color and firmness. Therefore it may be one thing to produce a vealer economically, but another to produce a high quality product.

To test the desirability of veal produced by the rations already discussed, Professor Flora Henning of our Home Economics Department, gathered together considerable data from loin roasts, some of which appear in the following table.

<table>
<thead>
<tr>
<th></th>
<th>Lot I*</th>
<th>Lot II*</th>
<th>Lot III*</th>
<th>Lot IV*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dripping loss, %</td>
<td>2.4</td>
<td>2.8</td>
<td>1.1</td>
<td>1.2</td>
</tr>
<tr>
<td>Evaporation loss, %</td>
<td>17.0</td>
<td>16.4</td>
<td>17.9</td>
<td>20.2</td>
</tr>
<tr>
<td>Total cooking loss, %</td>
<td>19.4</td>
<td>19.2</td>
<td>19.0</td>
<td>21.4</td>
</tr>
<tr>
<td>Shear value</td>
<td>9.6</td>
<td>5.3</td>
<td>11.0</td>
<td>13.4</td>
</tr>
<tr>
<td>Flavor score</td>
<td>7.8</td>
<td>7.8</td>
<td>7.8</td>
<td>7.8</td>
</tr>
<tr>
<td>Juiciness score</td>
<td>7.1</td>
<td>7.6</td>
<td>7.4</td>
<td>7.5</td>
</tr>
</tbody>
</table>

*Ten calves per group.

The total cooking loss was quite similar with the exception of lot IV. Either ration, grade, or both may have had some influence in this result. Moisture losses were higher in the lower grading lots, while fat losses were higher in the higher grading lots. The most pronounced differences in veal roasts were found in the shear values. The differences were
statistically significant. The higher grading lots produced the most
tender roasts, with the iron and copper supplemented liberal milk lot pro-
ducing the most tender meat. For this we have no explanation. Apparently
flavor and juiciness were not affected by differences in ration or by
grade, according to the palatability test. These results should stimulate
our thinking in terms of what factors do influence flavor and juiciness in
veal and especially of animals identical in age. Even though fat was not
present in large quantities, it was decidedly evident in lots I and II;
yet apparently did not contribute in such a way as to affect flavor or
juiciness. Is tenderness then our primary concern in working toward quality
veal? If so, what is influencing the degree of tenderness? These questions
should provide some provoking thought to those interested in meat tender-
ness.

Digressing somewhat from the area of meats, we find some addi-
tional problems in production of veal, especially in our northern states.
The mortality rate of veal calves in Wisconsin is little higher than 10
percent, with most of the deaths occurring in the first 10 days after
birth. The most common causes of death are scours and respiratory dis-
orders. This loss amounts to about 2 calves per farmer in the state of
Wisconsin. The problem is not directly in our field of meats but comes
under the heading of a problem in producing veal. Many farmers are in-
clined to sell calves as soon as possible after birth rather than risking
possible death losses. This practice, of course, lowers the quality of
veal produced and therefore indirectly becomes our problem.

Another problem in producing veal with whole milk has been that
of injury of the udder of the cow by the nursing calf. This has been
solved rather acceptably by use of the Connor feeding bucket. Even so, it
takes time to educate the dairy farmer that this bucket is practical and
requires very little extra labor.

Since I do not have firsthand information pertaining to the
problems of production and evaluating calf carcasses, my comments will be
both general and brief.

The production of calf is located primarily in the more southern
states. Kentucky has conducted research with calf -- more especially under
the so-called cow and calf plan. Their results indicate that the plan is
good for the area and that the quality of meat produced receives very
acceptable consumer reaction, he said:

"Mr. Varney said that the statement was true when the study was
made but as of today he feels that consumer acceptance is not quite as
high as it was two or three years ago.

I also learned in talking with him that there are problems in
the production of calves and it seems that they vary from state to state.

I had a fine letter from Zane Palmer giving me some of the
problems of production of calf in Florida. One of the problems he states
is a real problem there is getting the calf on the ground. That is, the
calving percentages are very low, from 50 to 60 per cent. I understand,
though, that in Kentucky that is not a serious problem. So there is an
example of variation in that respect between states. Also I understand
that there is a lack of uniformity of calves produced in Florida; that is, a lot of nondescript calves are being marketed from various breeding practices, whereas I understand that in Kentucky it is somewhat more uniform.

I judge that in Texas that is likewise true, in that you probably have a predominance of beef breeding involved whereas in Florida you have dairy Brahman and beef breeding involved, which makes for a considerable lack of uniformity.

Another problem, as I understand it, is a lack of weight for age in Florida. That is, many of the cows perhaps do not have sufficient milking ability to produce heavy calves at the time they should be ready to go to market. Again I understand that this is not a serious problem in Kentucky because most of the cows there have good milking ability, and I suppose the blue grass of Kentucky also adds somewhat to the situation and helps to improve the situation.

Getting calves well into the grade is also another problem that seems to exist in Florida, and that, as Zane points out, is due to the fact that at the present time they do not have enough improved pasture.

Improvement of the quality of the calves then seems to be one of the primary production problems.

One of the other points that was mentioned by Mr. Varney from Kentucky and also Zane Palmer from Florida was that there seems to be a lack of proper identification for this kind of meat.

Zane states it this way: 'I believe that the real merchandising problem is the development of a clear-cut distinction between veal, calf and beef. Also too frequently heavy veal goes as calf or light calf as heavy veal; hence the consumer is not always able to buy what is desired.'

It looks like there may be a merchandising problem in that respect.

Mr. Poggi has touched upon one of the problems I was going to mention, and that is the packer problem involving a steady supply of this type of meat and the problem of getting the retailer to take on this meat when it is available.

Also the problem of the retailer was touched upon in his talk in that the retailer does then have the problem of advertising and merchandising this product when it is available and then running the risk of losing his customers because he does not have it when the supply is short.

I think this takes care of some of the major production problems with calf, and I might say, Don, that in leading the discussion you might call upon Bill Cole, Zane and Mr. Varney for additional comments in this respect.

Carcass evaluation problems in my opinion should be similar to those of veal, with the possible exception of color of lean.'
### TABLE 1. VEAL CALF GROWTH AND CARCASS DATA

<table>
<thead>
<tr>
<th></th>
<th>Lot I (Liberal whole milk only)</th>
<th>Lot II (Liberal whole milk + iron and copper supplement)</th>
<th>Lot III (Limited milk, hay and calf starter)</th>
<th>Lot IV (Liberal milk replacer, hay and calf starter)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Initial wt., lb.</td>
<td>93.1</td>
<td>95.6</td>
<td>98.0</td>
<td>103.2</td>
</tr>
<tr>
<td>Final wt., lb.</td>
<td>183.1</td>
<td>185.9</td>
<td>157.5</td>
<td>142.1</td>
</tr>
<tr>
<td>Daily gain, lb.</td>
<td>2.34</td>
<td>2.35</td>
<td>1.55</td>
<td>1.12</td>
</tr>
<tr>
<td>TDN per lb. daily gain, lb.</td>
<td>1.45</td>
<td>1.43</td>
<td>1.61</td>
<td>1.66</td>
</tr>
<tr>
<td>Yield, %</td>
<td>69.39</td>
<td>69.29</td>
<td>63.46</td>
<td>64.49</td>
</tr>
<tr>
<td>Carcass grade</td>
<td>Top Choice</td>
<td>Av. Choice</td>
<td>Top Commercial</td>
<td>Top Utility</td>
</tr>
<tr>
<td>Kidney fat, gm.</td>
<td>617.7</td>
<td>557.1</td>
<td>212.4</td>
<td>100.5</td>
</tr>
<tr>
<td>% liver (live wt.)</td>
<td>2.2</td>
<td>2.1</td>
<td>1.8</td>
<td>1.9</td>
</tr>
<tr>
<td>Blood iron, mg. %</td>
<td>28.4</td>
<td>54.2</td>
<td>59.7</td>
<td>35.9</td>
</tr>
<tr>
<td>Mg. iron per 100 gm.liver</td>
<td>3.0</td>
<td>12.7</td>
<td>5.0</td>
<td>5.9</td>
</tr>
<tr>
<td>% moisture loin eye</td>
<td>77.64</td>
<td>77.49</td>
<td>78.31</td>
<td>78.52</td>
</tr>
<tr>
<td>Myoglobin content of loin eye muscle</td>
<td>0.35</td>
<td>0.67</td>
<td>0.47</td>
<td>0.43</td>
</tr>
</tbody>
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### TABLE 2. VEAL CALF COOKING DATA

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<tr>
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<td>Shear value</td>
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*Ten calves per group.*
CHAIRMAN PEARSON: I wish to thank Bob for his talk.

Discussion will now be led by Don Kropf from the University of Wisconsin. Don.

MR. KROPF: Well first, in limiting our comments to Bob Bray's paper I was considerably enlightened -- and I hope there are no Brahman breeders in the room -- when he said that they have dairy, Brahman and beef breeding in Florida.

I am sure that there are other problems in calf production of which Bob and I are unaware, and at this time I would like to call upon anyone else who wishes to contribute to the discussion of the problems in the area of calf production. I wonder if Bill Cole has any comments in that field or anyone else.

MR. COLE: Mr. Kropf, I don't know whether I can add anything to what has already been said or not, but I can tell you truthfully I was pretty much amazed at the quality of veal in Tennessee when I first went there. I think it is very good. The Neuhoff plant, at Nashville, I am told, is the largest veal slaughtering plant in the world. It is set up to kill about a thousand calves a day. They do a lot of grading there.

In Knoxville, for instance, I would say that 90 per cent of the veal is federally graded. All the veal calves in Tennessee that I know anything about are killed hog style. That is, with the hide on, and in the marketing of veal calves I think considerable grading is done. Practically all auction markets do grade calves. I don't know how experienced the graders are, but the state department does have grading men to supervise it, and they are graded and put into the lots and sold by auction. In other words, the calf loses its identity. It is graded and put into the lot and they are paid for so many pounds of calf. So I think that maybe in that respect they are doing a pretty good job of marketing in Tennessee.

As for production problems and carcass information I don't know much about that.

MR. KROPF: Thank you for your comments, Bill.

Are there any other comments on calf production, or are there questions that you would like to direct to Bob Bray or anyone else?

DR. BRATZIER: I wanted to ask, Bob, how did you get these veal calves into choice if the color of the lean was as dark as I gather it was. Also whether the amount of iron and copper supplement has anything to do with color and whether you tried it with hog or swine to eliminate the white pork?

DR. BRAY: Well, there was some downgrading of those carcasses. That tended to push them down some, still classified as veal but undesirable from the standpoint of grade because of the darker
color. The bone in those calves was blood red, just fiery red, and we think, of course, contributed to the iron supplementation there.

What was the other part of your question?

DR. BRATZLER: How about the amount of supplementation? Do you think that could be regulated?

DR. BRAY: Well, I think probably. We were using I think 200 milligrams daily that was being given to the calves in their milk. I think that could be tried. I really think you could vary the color by the amount that you supplement the milk. We tried it briefly on hogs. Ernie tried it on some hogs right after this. We got encouraged to see what we might do. We tried it on 16 hogs, 8 controls and 8 hogs supplemented with iron and copper and kept on this ration about two weeks prior to slaughter. Maybe a little longer than that. Two to three weeks prior to slaughter. There was no visual difference between them.

How about the myoglobin, Ernie?

MR. BRISKEY: They haven't been analysed.

DR. BRAY: They haven't been run as yet, but certainly there was no visual difference.

MR. ADAMS: How about the tenderness of the pork?

DR. BRAY: I don't know.

DR. HENRICKSON: Did that make any difference in how long the product held up?

DR. BRAY: We didn't try to test the storage life.

DR. J. C. FIERCE: I was just going to ask if the tenderness values of your panel tended to line up at all with the shear values of your cooked veal. I notice that you show the shear values but you don't show the panel scores.

DR. BRAY: Well, Miss Hennings thought there would be some difficulty in getting her panel to evaluate juiciness, flavor, and tenderness adequately. She thought if she gave them juiciness and flavor that would be enough. They did put down their comments regarding their overall impression of the samples, but that has not been related to the shear values. The comments were that it was stringy or tough. Those comments were on those that were in those two lower graded lots, but we don't have a correlation figure between the panel and the shear value.

DR. KEMP: I would like to ask how you got utility veal to dress 64 screws.

DR. BRAY: I don't know.
DR. KEMP: Was that hide on?

DR. BRAY: That is hide on, sure, but interestingly enough in the study with the 613 calves, the farmer delivered calves, some with the light calves were the ones that really yielded. We had a little light calf, I remember, yielding around 70 per cent. That was the exception. It depends a lot on the fill in the calf, of course, but these calves all came off the same time and you see then a relative spread exists between them. I cannot tell you why we have that kind of a yield.

DR. KEMP: In our work with these calves we have two major problems I think. One is getting the cows bred early enough to drop them according to plan. I am not talking about veal now. I am talking about calves. We don't want them to come late because if we do we will sell these 300 and 400 pounders along about October. Nobody wants them and we take a loss on them. But if we can get these calves dropped around Christmas or shortly thereafter, we don't have to sell them as calves. We can sell them as light beef and the market wants them. That is in our plan of operation. It is what we try to do, but a large percentage of the people don't follow the plan like we propose it, and the market is flooded with the intermediate weights. It isn't beef or veal as has been pointed out, and the calf isn't merchandised as such. It all comes close to the same time, and unless we can do a better merchandising job on this type of meat, some of our farmers get hurt with it. So our main problem right now is producing it not quite according to the plan and it floods the market at the same time as a lot of our regular grass cattle are coming on the market.

MR. ELLIS PIERCE: I would like to ask Bob a question on the liberal amounts of whole milk. Just how many pounds of milk were there, Bob?

DR. BRAY: Our conversion there was about 6 or 8 pounds per pound of daily gain. I guess it ran 8 plus, so that would make it on those roughly 20.

MR. PIERCE: Twenty pounds per day?

DR. BRAY: Roughly that -- 18 or 20 pounds. We have those figures. I don't happen to have them here.

MR. WELLINGTON: Just very briefly. Of course, as Bob mentioned we slaughter quite a lot of veal. We eat some good veal, but most of what we eat comes from Kentucky or Tennessee to New York. We have given a lot of thought to this veal problem and the economics of it, and some times the price picture is favorable to feeding milk to the calves. The problem that we run into more than anything else is a dairy farm management problem. In a good dairy herd the dairyman does not see the proper way of handling this veal calf. I wonder if Bob has any comment on that.

DR. BRAY: I think our problem is the same as yours. For the big dairy farmers, the good dairy farmers, that are on a grade A
milkmarket, just as I stated before, the calf just becomes a necessary production evil in getting a new milk supply. They get rid of the calf as soon as they can, and even though the veal price may be favorable they just don't take advantage of it.

MR. KROPP: Okay, one more question.

DR. BREIDENSTEIN: I would like to ask this question either of Dr. Kemp or Mr. Varney. Do they have any ideas as to the reasons for the increase in consumer resistance to this calf beef or should we say reduced consumer acceptance?

DR. KEMP: I think that it is primarily due to methods of merchandising. As you know, more and more stores are becoming supermarkets, and they are placing a standard type of meat on their shelves the year around. To give one example, one of the large independent markets in Louisville two or three years ago handled this meat in large volume. He admitted that he made more money on it in the short time. But he didn't handle it the next year, primarily for the reason that it got his customers accustomed to a little cheaper beef than the regular fed beef and about the time they got accustomed to it he was out of it. He could not get any more and the customers did not come back for a while. So the stores don't want to handle it.

Another thing is that most of the cooking methods are put out on beef. Very little work has been done on the cooking of this calf. Consumers get this calf and they try to cook it like they cooked beef and it does not work. If they try to broil it or to cook it the way it is recommended they cook beef it does not work. So it is a matter, I think, of not knowing how to use it because if it is used properly it is a very good product, I think, but most people just don't know how to use it properly.

DR. BREIDENSTEIN: I want to ask one more question. Perhaps the retailers are misrepresenting it. At least it happened in our area. They have sold it as beef and promoted the idea of cooking it as beef and it just has not worked.

DR. KEMP: You don't see any calves in our markets. It is either veal or beef and quite a bit of it is calf but it isn't labeled as such in most cases.

MR. KROPP: I think that at this time we had better move along to a little discussion of Bob Kelly's paper on veal cutting procedures. I think that we should keep this discussion rather general. If you have comments I wish you would let Bob know by mail. So at this time if there are any general comments on this procedure I should like to have them.

DR. BUTLER: It seems to me that the procedure proposed here is about the same as for beef except that the loin ends, the rumps, are not removed and the plate and briskets are not separated. I should like to point out that nobody cuts calves like this, and that
calf carcasses are much more like beef carcasses. They may average 250 pounds in weight or something like that. I wonder if it would not be satisfactory simply to cut by the same procedure as beef and to make separation into the different cuts optional.

MR. KELLY: That is one of the problems that we were confronted with in drawing up the procedure. For instance, in some of the work that you may be doing and in some of the work that we are doing on the composition of gains of beef cattle, we are working with what you might call calf carcasses but we are cutting them up as recommended for beef. I think here it depends upon what you are going to use the carcass for in the over-all study that you are working on.

If that is the end product, if veal is the end product, if that is as far as the study is going, then I would sort of lean toward the proposed procedure. If I were going to carry on and try to compare it with the mature beef, then I would certainly want to use the beef cutting procedure.

MR. KROPP: Are there any other general comments?

MR. WELLINGTON: I think that we are getting into a subject that we all feel quite qualified to talk on and to comment on, but I would just like to mention that I am glad that the committee decided to have suggestions sent in within a couple of weeks and that then it is going to decide from those suggestions just how to proceed.

At this point I would just like to mention that the Beef Carcass Evaluation Committee presented its plan to this group and tried to handle it as democratically as it could. There was a strong difference of opinion as to how the separation should be made between the chuck and the brisket. The way it now stands, we are separating the brisket from the chuck on a line that is certainly different from what is followed in most packing plants or cutting procedures.

As I look at your diagram, I think that your line is the same as ours at the present time. I believe that again as a democratic procedure we might give some consideration to whether we want to make that separation as it is in these two plans at the present time. We went on the majority vote that day and ruled to keep it the way it was, but the only reason we had was that it had been that way previously in our guide.

MR. KROPP: One more question.

DR. COLE: I wonder what, if any, the significance of the dotted line in the aitch is. You didn't mention that.

MR. KELLY: That outside covering there should not be anywhere near as thick. That is the external fat covering. On the first copy that I made it was just about 1/4 of an inch thick. It is not going to be even that thick on a veal or a calf carcass. That is for fat thickness and I don't believe you can measure that accurately.
DR. COLE: Are you proposing that we use just the one measurement for fat thickness?

MR. KELLY: I have not mentioned external fat thickness at all. I do not believe that we can measure that objectively.

MR. KROPF: I have just one general comment. I think with regard to veal carcass skinning maybe we ought to specify in these proposals that the skinning be done immediately prior to the time of cutting to cut our shrink losses in veal.

Now I want to remind you, if you have any comments please send them to Bob Kelly at WPI, or you may want to see him today or tomorrow some time and tell him your comments. We will appreciate having them.

MR. MACKINTOSH: Mr. Chairman, I should like to revert to the question of cooking calf for just a moment. I believe that the National Live Stock and Meat Board has, we might say, reconvened the Meat Cooking Committee and it is again at work revamping the standard methods of meat cookery. It might be well for this conference to draw to the attention of this committee the need for work on calf, which I believe is not included in their original publication.

CHAIRMAN PEARSON: All right, thank you, Mr. Mackintosh. We will refer that to next year's Executive Committee and they can hand it down to the Veal and Calf Carcass Committee and see that it is properly brought to the attention of the Board.

I want to remind you again, if you have any suggestions for changes in the procedures for cutting veal or calf refer them to Mr. Kelly. Also George, if you feel that beef should be handled differently, your comments should certainly be brought to the attention of the committee, and if a change should be made, recommendations can be brought to the conference at a future date.

We now have scheduled the election of next year's chairman, and Bill Cole will take over this function. So, Bill, will you and your committee pass out the ballots and tell them for whom they have a right to vote? Tell them their names.

MR. COLE: The Executive Committee for next year, as selected yesterday, is Dr. Blumer of North Carolina; Dr. Kemp of Kentucky; Dr. Cahill of Ohio State University -- Dr. Palmer of the University of Florida, and Gene King of Texas A. and M. College.

According to the constitution, this group is to select a man as chairman for next year.

CHAIRMAN PEARSON: All right, the ballots are now being distributed. Please mark them.

In the meantime, while the ballots are being marked, there are people who have come in who have not introduced themselves, and I should like to have them stand and follow the procedure that we have followed so far in this conference in introducing themselves.
Is there anyone along this table here who has not been introduced to the conference?

MR. SOULE, JR: Ralph Soule, Jr. of Kansas State College.

CHAIRMAN PEARSON: Bob, were you here yesterday when the introductions were carried out?

MR. RIERSON: No, I was not. I got in here early this morning. Bob Rierson from Wisconsin.

CHAIRMAN PEARSON: Bob is in the Agricultural Economics Department with Bob Bray and is here as a guest of Wisconsin.

MR. RIERSON: I am a joint appointee between Agricultural Economics and the Animal Husbandry.

CHAIRMAN PEARSON: You belong halfway. We have Charley Niven here.

MR. WANG: Harry Wang of the American Meat Institute Foundation.

CHAIRMAN PEARSON: Is there anybody else who has not been introduced? We would like to have you introduce yourselves if you have not been introduced.

Our Conference Secretary has announcements to make and following that we will take a break of approximately five minutes.

(There was a short recess following announcements by Mr. Franklin.)

CHAIRMAN PEARSON: Now if you will take your seats again we want to get under way.

The report of the Nominating Committee is that the Chairman of the Executive Committee for next year has been duly elected and he is Tom Blumer. We will allow him his chance to make his speech this afternoon during the business meeting. At that time he will officially take over the duties as Chairman.

We will now have the report from our Research Review Committee which has certainly worked hard. We have some of our stock out. I know that some of you have made use of these abstracts. We find them to be very convenient in keeping abreast of the current literature. I also find that being an abstractor helps me to keep abreast of the current literature if I fulfill my responsibility to abstract the journals which I have been assigned.

Our next paper will be "Your Responsibility in Abstracting," which will be presented by Jerry Wnderstock of Cornell. Jerry.