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**CONSUMER SURVEY FOR BEEF BY SOCIOECONOMIC
PROFILE OF CONSUMERS AND RELATED
MERCHANDISING AND PROMOTION STRATEGIES**

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Introduction

Decreases in demand for beef that started in the late 1970s have forced significant industry-wide adjustments. At the national level, a total cattle herd that had reached 132 million head in 1975 has declined to less than 100 million head in the 1989-91 period. The corollary reduction in the beef cow herd is the equivalent of some 300,000 average size U. S. producers being forced to exit the industry.

The severity of the problem is clear in Table 1. After adjusting for price inflation to get all prices to a common base, price of beef in the retail supermarkets had to decline over 30 percent from 1979 through 1986 to entice the consumer to continue taking what was essentially a constant per capita supply. In more recent years, the pattern has been one of holding inflation-adjusted prices up to essentially constant levels by reducing per capita offerings.

Table 1. Per Capita Consumption and Nominal and Inflation Adjusted Prices for Beef, 1975-1990

Year	Per Capita Consumption (lbs. retail weight)	Nominal Price (cents/lb.)	Inflation Adjusted Price (cents/lb.)
1975	88.0	154.8	287.7
76	94.2	148.2	260.4
77	91.4	148.4	244.9
78	87.2	181.9	278.9
79	78.0	226.3	311.8
80	76.4	237.6	288.4
81	77.1	238.7	262.5
82	76.8	242.5	251.3
83	78.2	238.1	239.0
84	78.1	239.6	231.1
85	78.8	232.6	216.3
86	78.4	230.7	210.4
87	73.4	242.5	213.4
88	72.3	254.7	215.3
89	68.9	265.7	214.3
90	67.2	281.0	214.5

Part of the economic pressure from the demand problems was offset by increased efficiency. At the producer level, beef production in the late 1980s was comparable to that 10 years earlier, but January 1 inventory levels were 10-15 million head lower. Figure 1 demonstrates, showing beef production plotted against January 1 inventories with the years identified in the graph itself.

The increased productivity at the producer level allowed some producers to survive the relatively low cattle prices in the 1981-86 period. Further help was coming from the increased efficiencies at the packer/processor level as the industry adjusted to the economic pressures on the middlemen by consolidating and moving to fewer, larger, and apparently more efficient packing and processing operations. Figure 2 shows that the farm-retail price spread, after adjusting for price inflation, declined over 20 percent during the 1980s and is still showing a tendency to decline. If this spread had been flat, given the refusal of consumers to pay higher prices, the downward pressure on live cattle prices would have been more severe.

Figure 1. Commercial Beef Production
Related to Jan. 1 Inventories, 1970-90

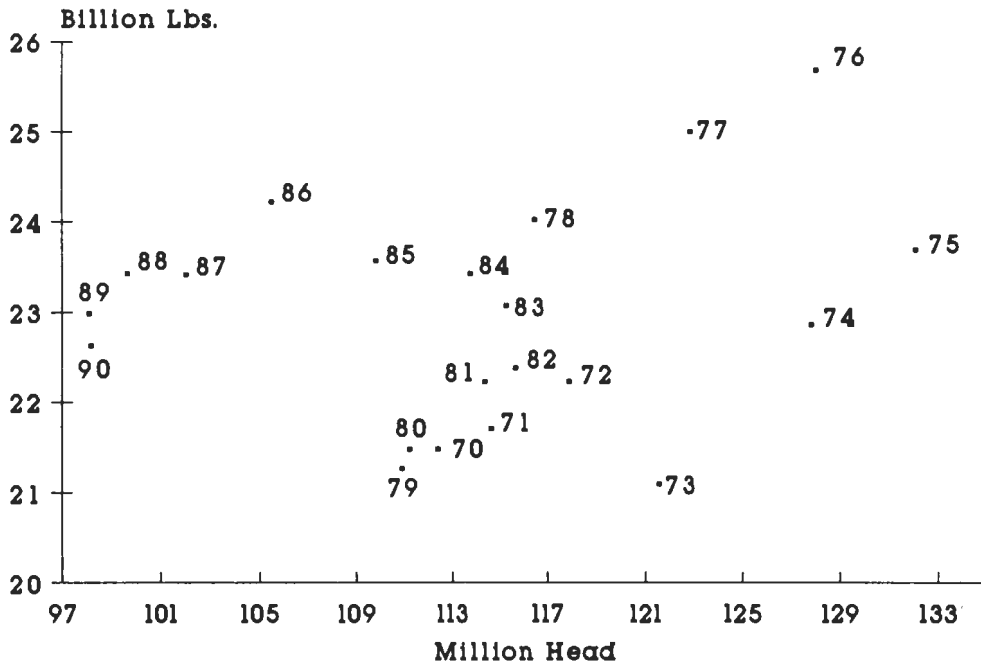
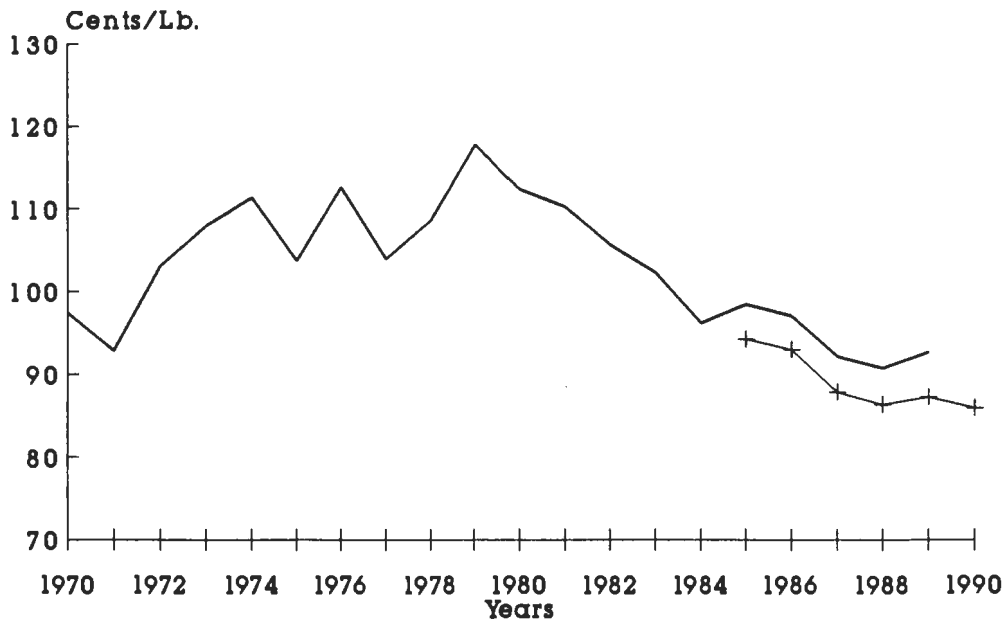


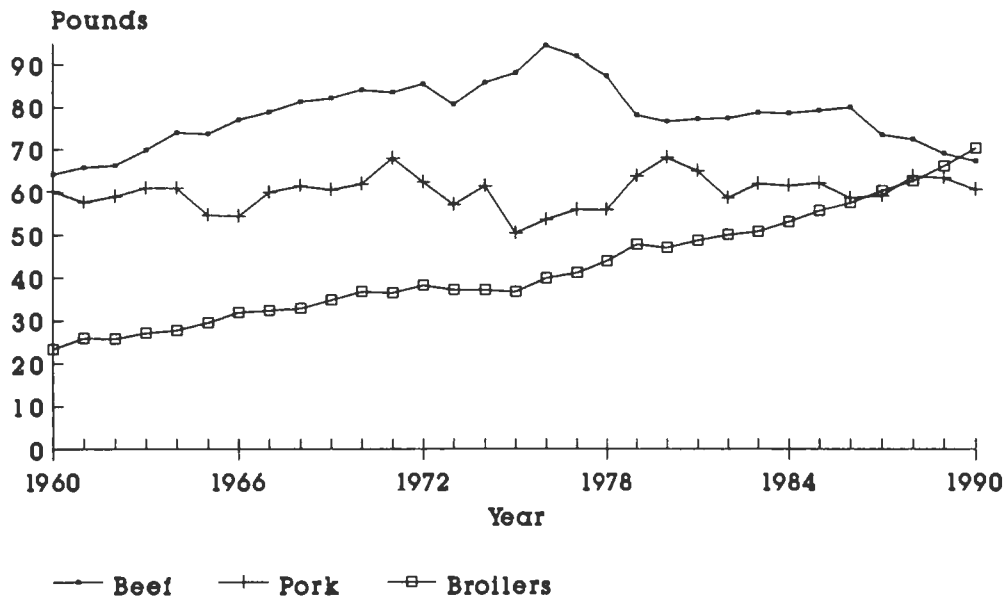
Figure 2. Deflated Farm-Retail Price
Spread (1982-84=100), Beef, 1970-1990



New calculating procedures started in
1990 and extended back to 1985 for
comparison

In spite of all the adjustments and the increased efficiencies, the industry has gone through a very difficult period. Figure 3 shows that, in retail weights, per capita consumption of chicken alone exceeded that of beef in 1990. Since consumption equals production, this plot confirms the downsizing of the beef industry and shows clearly that consumer-level prices have not been high enough across the past 10-12 years to keep resources in beef production. To change this negative pattern of developments, demand at the consumer level must improve. Beef can be a growth sector again, the way the broiler industry is in 1991, if consumers felt better about the product and were willing to buy and consume increased per capita supplies at constant to higher inflation-adjusted prices.

Figure 3. Per Capita Consumption of Beef, Pork, and Broilers, 1960-1990



Industry-wide efforts to change the situation have been underway for a number of years. Promotion, education, communication, and product development efforts have been funded by the producer approved beef checkoff program. But there is much yet to be done. Better understanding of the consumer is needed to guide merchandising and promotion programs. The overall objective of this study was to enhance understanding of consumers and their reaction to the beef product and the way it is offered. The secondary objective was to develop possible merchandising strategies for beef, strategies consistent with the enhanced understanding of how consumers react and what they want in fresh beef offerings.

The Survey

A random sample of 2,000 Virginia households was obtained from a commercial firm in business to provide such address lists. Some 200 of the mailings were returned due to insufficient address, etc. Of the 1,800 remaining mailings, 204 were returned. There were 5 of the 204 responses that indicated that particular household did not consume meat, leaving a total of 199 usable completed surveys.

The survey form is shown in Appendix A. A response rate in excess of 11 percent for a 4-page survey is quite acceptable, and the 199 responses is a sufficiently large sample to provide reliable results. The survey results should be representative of the Virginia consuming public in its entirety.

The Analysis

The questions were designed to probe consumers' attitudes, what they like and dislike in the beef offerings of March 1991, why they have changed their consuming habits, etc. Questions related to pork and chicken are used to generate some base of comparison. An underlying motive was to generate information on attributes of consumer behavior that could be integrated into merchandising strategies. Since the need for market segmentation has long been advanced as important, the respondents were asked to provide information on size of family, number of wage earners, income levels, age, education, and place of residence.

The results are presented in sections. A histogram is employed with virtually every question to show the range and frequency of the responses. Simple correlations, technically Pearson correlations, between the answers and the socioeconomic measures are presented when they meet pre-established levels in terms of statistical significance. The correlations measure association, and assigning causal impact is not necessarily appropriate. To illustrate, the results show older consumers tend to be better informed on the various cuts of beef and feel comfortable shopping for "best buys" across cuts. This association is present in this 1991 survey, but that does not necessarily guarantee that understanding will improve as the population ages. It is the associations that are important as guides to current merchandising strategies, however, and no efforts are made to "model" the responses in any more sophisticated fashion.

Section 1: Consumer Ratings for Beef and Correlations With Selected Socioeconomic Variables

The questions in Section A of the survey form asked the respondents to answer using a scale of 1 to 10, where 1=poor and 10=excellent. In presenting the results, each question will be repeated and a histogram shown to provide information on the distribution of the answers. The rating, 1 to 10, is shown on the horizontal axis and the frequency of each rating is shown on the vertical axis. The total number of responses to this question will be provided using the notation "N".

The Pearson correlation between the ratings for the particular question and the socioeconomic measures will be shown for all measures with a statistical significance level of less than .20 in absolute value. The correlations with a significance level greater than .20 could occur due to chance in over 20 percent of repeated samples of the same size, and are not considered to be providing useful information. Since the respondents fit one but not all of the socioeconomic measures, the number of observations upon which the correlation is based will be provided. In drawing inferences from the correlations, attention will be paid those that are (1) relatively large compared to zero, and (2) are highly significant in a statistical context with p-values of less than .10 or, even more powerful statistically speaking, less than .05. Correlations are measures of association. A positive correlation means events or measures tend to occur together. A negative correlation is indicative of a negative or inverse relationship. In the context of the questions in this section, a negative correlation between a specific question and a particular group of consumers (such as those with family incomes from \$25,000 to 50,000) would indicate that group tended to rank the question lower on the 1 to 10 scale than the average ranking.

Given the histograms and the correlation measures, conclusions will be drawn as to what the results mean in preparing a merchandising plan for beef. The focus of attention will be on what meat managers can do in terms of in-store display information and on overall strategies that can be employed by the Virginia Cattle Industry Board in efforts to position beef more effectively at the consumer level.

The socioeconomic variables are defined as follows:

- BP = Number adults in the household
- BQ = Number children 16 years or less in the household
- BR = Number full-time wage earners in the household

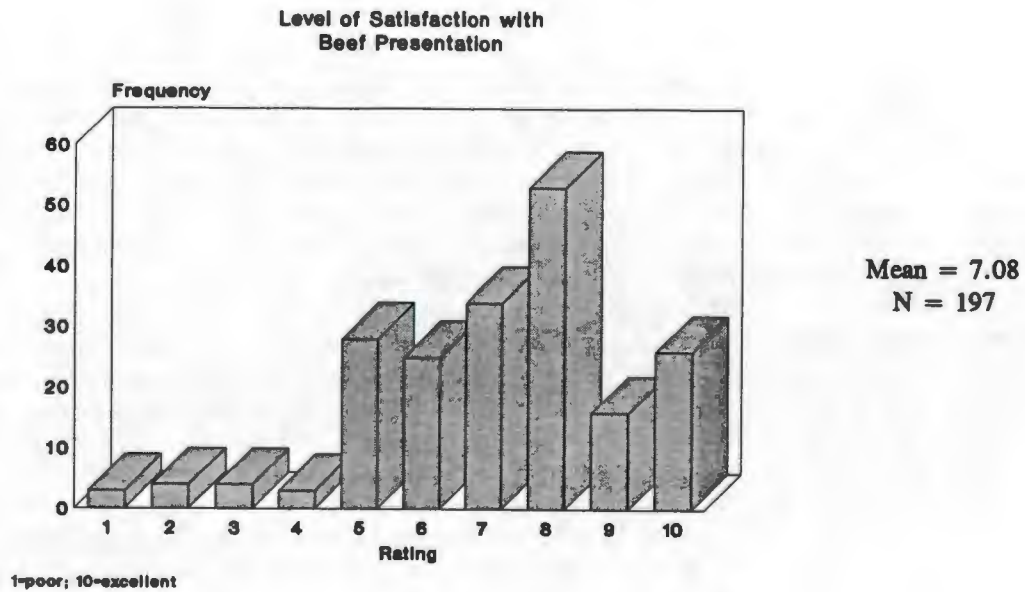
- BS = Number part-time wage earners in the household

- BT = Gross income per year for the household of less than \$15,000
- BU = Gross income per year for the household of \$15,000-25,000
- BV = Gross income per year for the household of \$25,000-40,000
- BW = Gross income per year for the household of \$40,000-60,000
- BX = Gross income per year for the household of \$60,000-80,000
- BY = Gross income per year for the household of more than \$80,000

- CA = Respondent age 20-30 years
- CB = Respondent age 30-40 years
- CC = Respondent age 40-50 years
- CD = Respondent age 50-60 years
- CE = Respondent age over 60 years

- CF = Years of education of respondent completing the survey form where 12=high school diploma

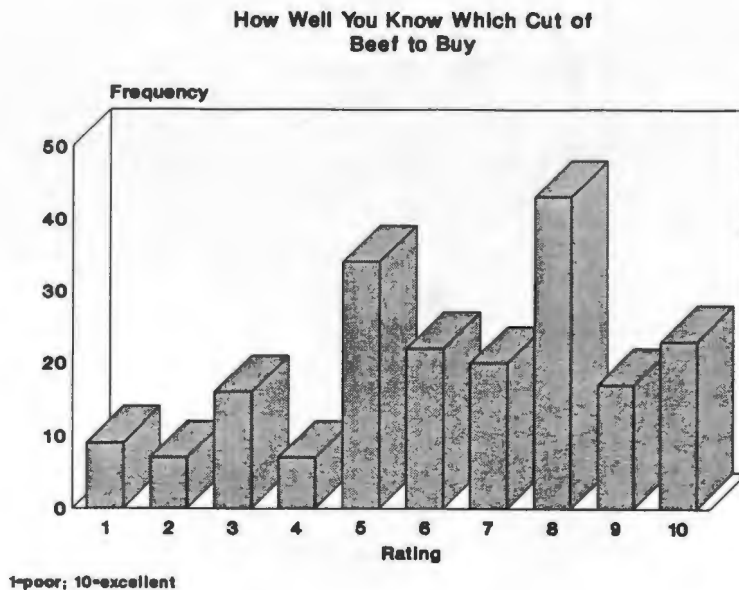
Question: *Your level of satisfaction with the way fresh beef is packaged, presented, and displayed in your supermarket.*



<u>Socioeconomic Variable</u>	<u>Pearson Correlation</u>	<u>P-Level</u>	<u>N</u>
BR	.1073	.1699	165
BV	-.1538	.0309	49
CE	.1043	.1446	40
CF	-.1268	.0788	193

The positive correlation with the BR variable suggests respondents from families with multiple wage earners rated the presentation of beef higher. The relationship is not highly significant, however. The BV measure is for respondents who have gross household income of \$25,000-40,000. This income group was not favorably impressed with the way beef is presented. The CE variable is for respondents over 60 years, and they tended to rate the presentation of beef higher. As with the BV variable, however, the relationship is not extremely strong in a statistical context. The probability of observing the relationship due to chance is .1446. The CF measure indicates that ratings went down as education level goes up, and the .0788 significance level suggests the correlation is strong in a statistical context. The 7.08 mean ranking is generally positive, but the histogram shows a number of observations at very low ratings--as low as 1.0.

Question: *How well prepared you are to know which cut of beef to buy for a particular way of preparing the meat.*

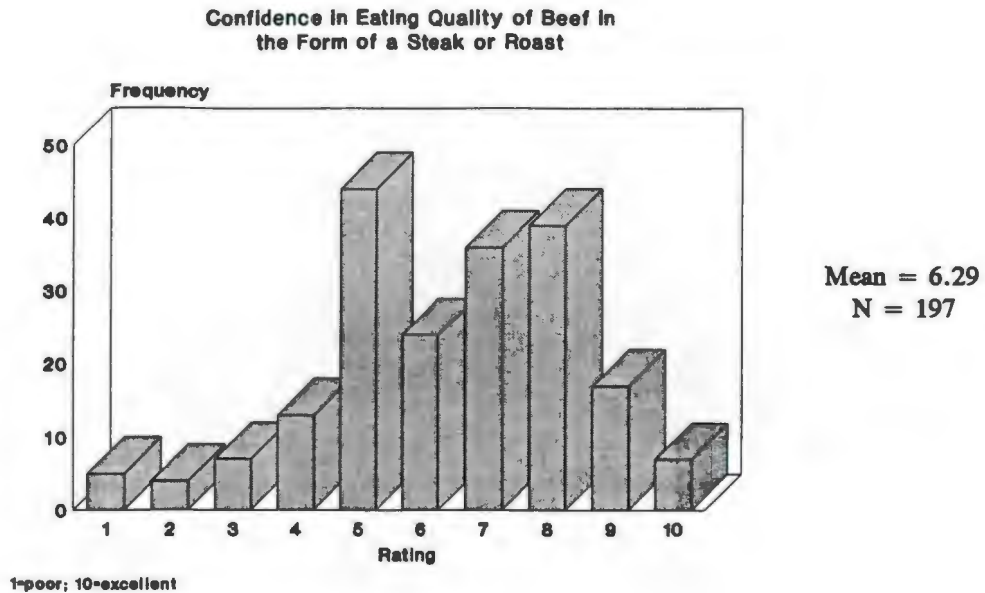


Mean = 6.40
N = 198

<u>Socioeconomic Variable</u>	<u>Pearson Correlation</u>	<u>P-Level</u>	<u>N</u>
BP	.1353	.0580	197
BY	.1211	.0891	28
CA	-.2114	.0028	19
CB	-.2131	.0026	54
CD	.1860	.0087	24
CE	.2235	.0015	41

There is a clear indication that the younger families do not know which cut to buy. The CA and CB variables indicate respondents in the 20-30 and 30-40 age ranges, respectively. Both show highly significant negative correlations, indicating ratings down in the 1 to 5 range were frequent by those respondents. The histogram confirms this pattern with a number of ratings at 3.0. Conversely, the correlations are positive and highly significant for the respondents with more adults in the family (BP), the high income group (BY) and for the older respondents, variables CD and CE. Combined, the results suggest the younger families need help in knowing which cut of beef to buy, raising the possibility of simple usage and cooking tips in any merchandising plan. This is an important finding. Obviously, being in a state of confusion about which cut to buy will exert a negative influence on consumers' beef purchases.

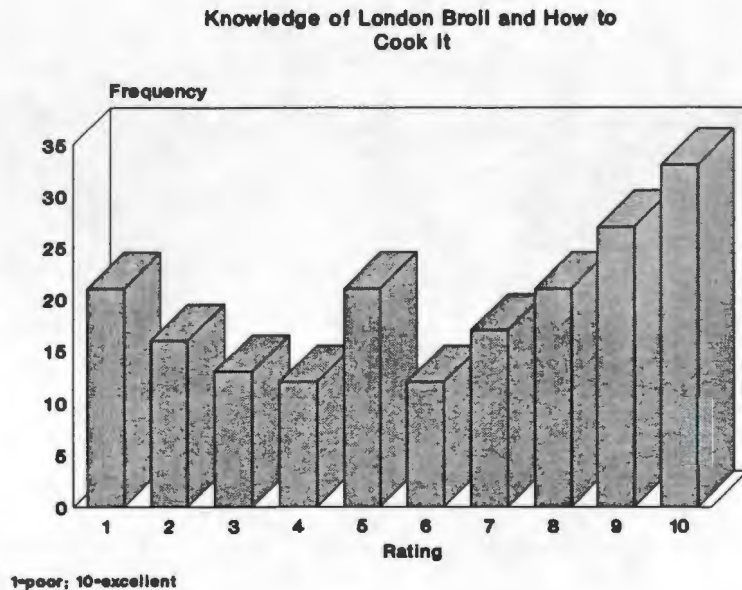
Question: *How confident you are that you will be satisfied with eating quality each time you buy beef in the form of a steak or roast.*



<u>Socioeconomic Variable</u>	<u>Pearson Correlation</u>	<u>P-Level</u>	<u>N</u>
BP	-.1005	.1649	196
BV	-.0977	.1720	49
CB	.1035	.1477	45

The families with more adults (BP) and the \$25,000-40,000 income group (BV) were more negative than the average respondent, but neither correlation is highly significant. The 30-40 age group (CB) was more positive. The key finding here is in the mean level of 6.29, which is lower than would be desirable, and in the dispersion and variability shown in the ratings in the histogram. Ratings were as low as 1.0, indicating major concerns across a number of respondents and 5.0 was the most frequent rating. Quality control to ensure eating quality is clearly important in any merchandising plan.

Question: *How well you know what the London Broil cut of beef is and how to prepare it.*

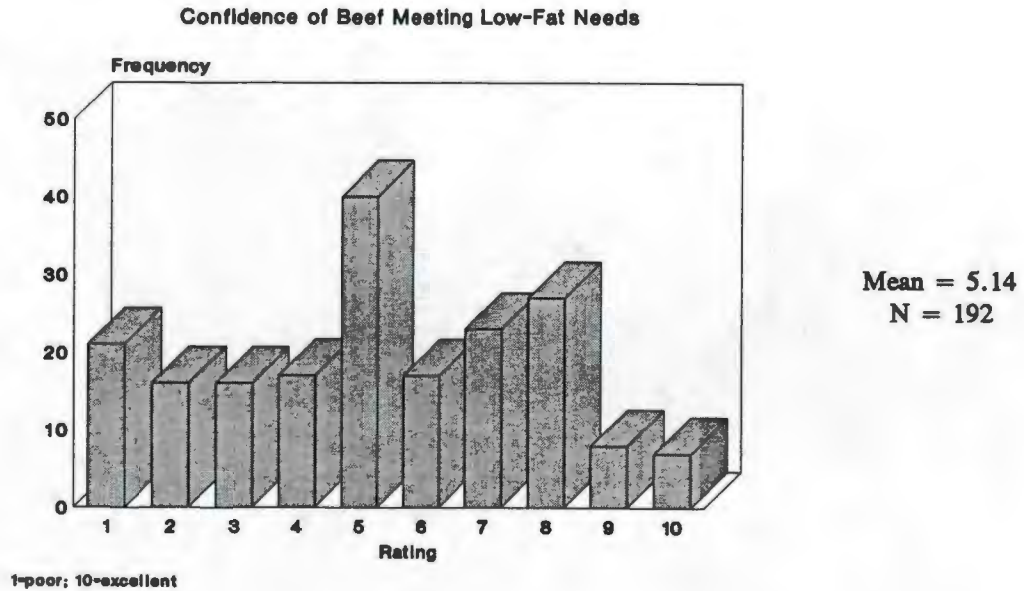


Mean = 6.08
N = 193

<u>Socioeconomic Variable</u>	<u>Pearson Correlation</u>	<u>P-Level</u>	<u>N</u>
BU	-.1292	.0733	25
BW	.1223	.0901	37
CA	-.2210	.0020	19
CB	-.1021	.1575	53
CD	.1391	.0536	23
CE	.1291	.0735	38

The negative correlations with the lower income families (BU) and the younger families (CA) continue the pattern seen in earlier questions. The younger families who are just getting started are less confident with this particular cut and how it should be prepared. The positive correlations for BW, CD, and CE suggest the higher income and older respondents are much better prepared to recognize the London Broil label and to know how to prepare it. The question was a planned redundancy or repetition and the results reinforce the message of earlier questions: the younger families need help in identification of cuts and in knowing how to prepare them. The mean rating of 6.08 is quite low as well. The dispersion shown by the frequency histogram, with frequent rankings as low as 1.0, suggests a great deal of confusion by consumers. This must be addressed in merchandising strategies.

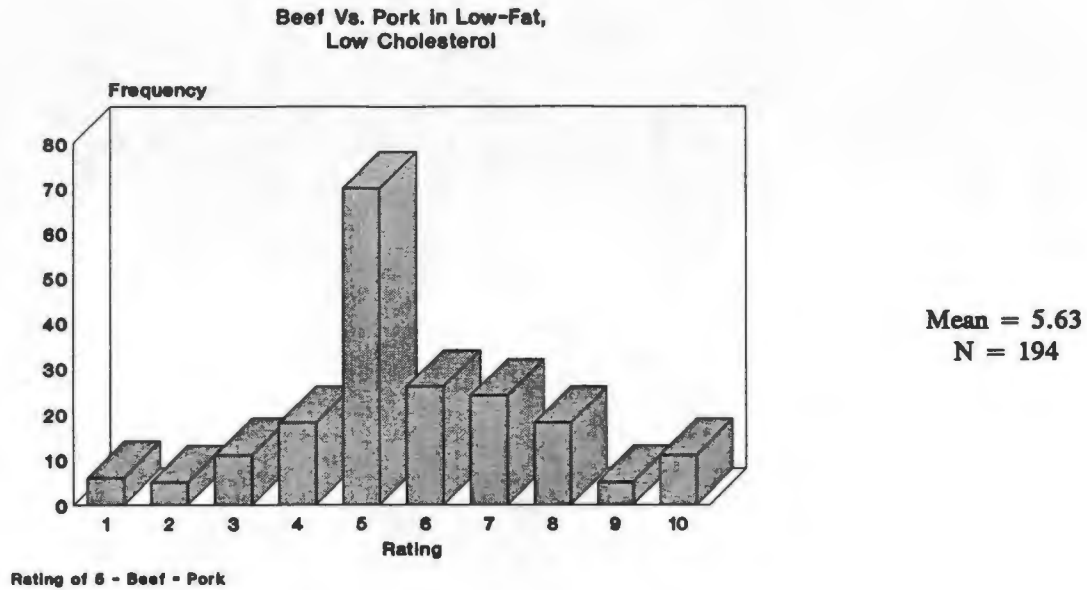
Question: *How confident you are that the fresh beef you buy is meeting your requirements for a low-fat product.*



<u>Socioeconomic Variable</u>	<u>Pearson Correlation</u>	<u>P-Level</u>	<u>N</u>
CB	.1000	.1674	52
CC	-.0990	.1715	59

The mean rating for the question was slightly above 5.0, but there were only two relatively strong correlation between the ratings and the socioeconomic variables. The age group 30-40 (CB) tended to rate the questions above 5.0, while the slightly older 40-50 year group (CC) tended to rate the question low. Neither correlation is highly significant in a statistical context. The dispersion in the overall ratings shown in the histogram is the most important finding here. The ratings were as low as 1.0 and the mean level of 5.14 is sharply below acceptable levels. There is a need to address the long-standing issue of fat levels in merchandising and education programs.

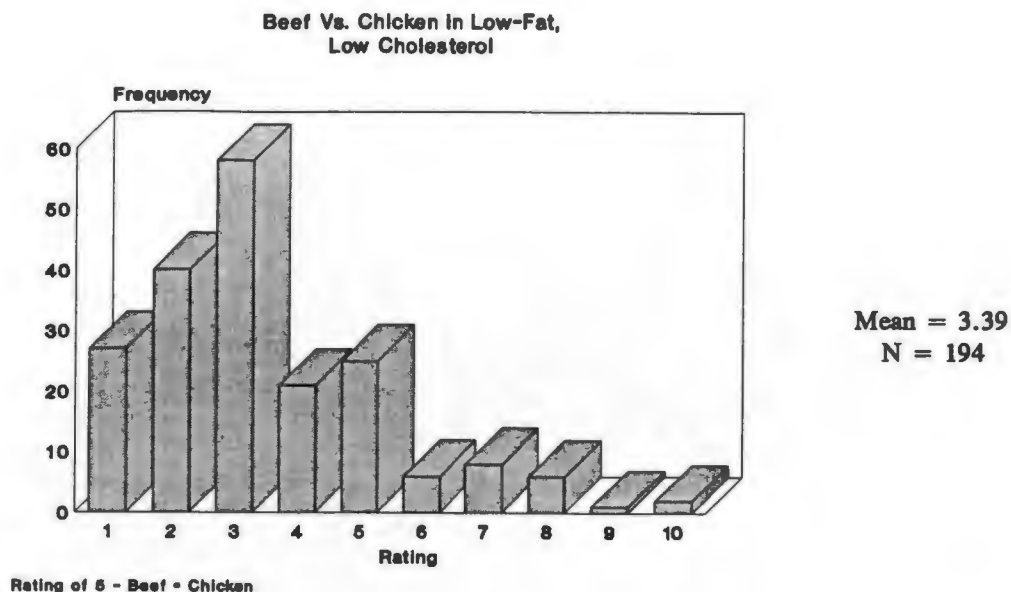
Question: *How you rate fresh beef compared to pork in offering you low-fat and low-cholesterol products. (Assume a rating of 5 means beef and pork are equal.)*



<u>Socioeconomic Variable</u>	<u>Pearson Correlation</u>	<u>P-Level</u>	<u>N</u>
BP	-.1614	.0249	193
BR	-.1381	.0787	163
CC	-.1905	.0028	59
CE	.1570	.0288	40
CF	-.1038	.1540	190

The families with more adults (BP), with more full-time wage earners (BR), the 40-50 age group (CC), and the more highly educated (CF) all ranked beef low compared to pork in providing low-fat and low-cholesterol diet possibilities. Combined, the four responses suggest families with the adults who are part of the post-war baby boom of the late 1940s and 1950s, families that are generally well educated, do not look with favor toward beef compared to pork. The mean rating was 5.63 for this question, and the older respondents (the CE variable) were positive toward beef. The dispersion in the histogram is not as great in some earlier questions, with a tendency toward a ranking of 5.0. Responses were as low as 1.0, however, with a number of ratings below 5.0. Efforts to improve the perceptions of the better educated and the larger families in the 40-50 age group toward beef are needed.

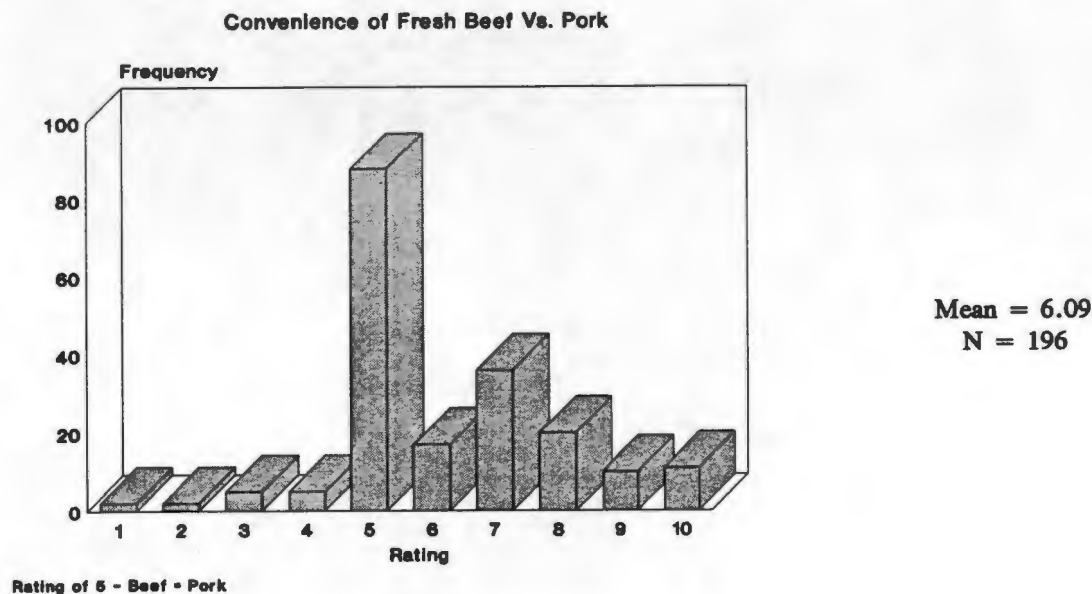
Question: *How you rate fresh beef compared to chicken in offering you low-fat and low-cholesterol products. (Assume a rating of 5 means beef and chicken are equal.)*



<u>Socioeconomic Variable</u>	<u>Pearson Correlation</u>	<u>P-Level</u>	<u>N</u>
BV	.1724	.0162	49
BX	-.1546	.0313	43
CF	-.1798	.0130	190

The mean rating on the question was very low, at 3.39, suggesting a strong consensus that beef is not competitive with chicken in providing low-fat and low-cholesterol alternatives. That finding is a strong overall result that should not be diminished by the relatively small number of significant correlations between the ratings and the socioeconomic variables. The correlation with the \$25,000-40,000 income grouping (BV) is highly significant with a probability of the result being due only to chance at a very small .0162. This could be the "meat lover" blue-collar families that have been identified in national surveys who are very loyal to beef. Both the higher income families (BX) and the more highly educated families (CF) were strongly negative in their responses. The correlation between the ratings and education is relatively large at -.1798 and is highly significant with a p-value of .0130. The higher income and more highly educated consumers apparently react very negatively to beef compared to chicken, and this negative response is in addition to the extremely weak comparative mean rating of 3.39. Major efforts are needed in any merchandising program to defuse the very negative attitudes toward beef as a provider of acceptable, low-fat and low-cholesterol products.

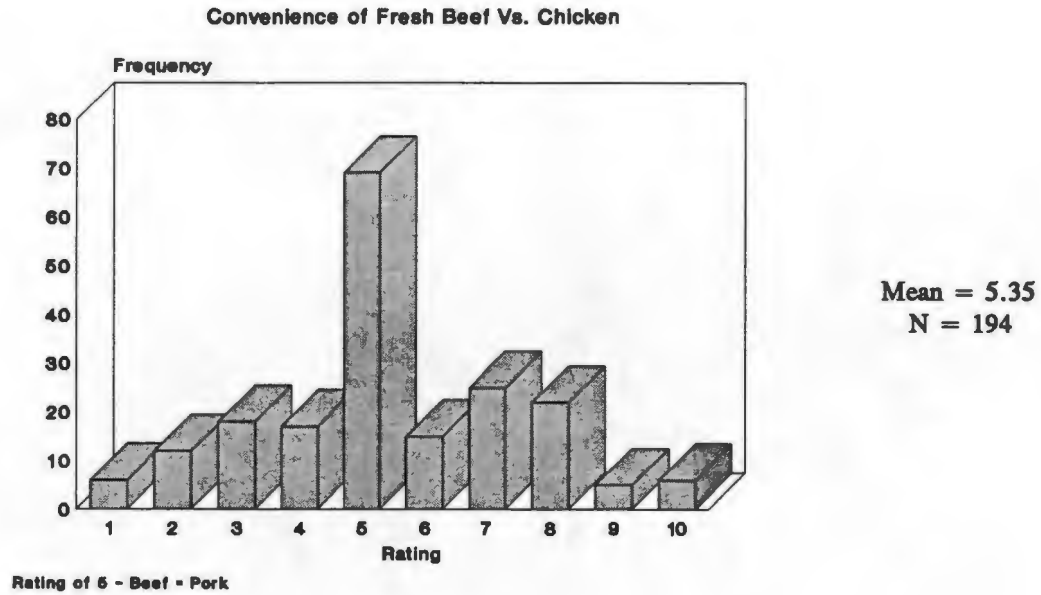
Question: *How you rate fresh beef compared to pork in convenience and time needed to prepare a meal. (Assume a rating of 5 means beef and pork are equal.)*



<u>Socioeconomic Variable</u>	<u>Pearson Correlation</u>	<u>P-Level</u>	<u>N</u>
BS	.2149	.1513	46
BU	-.0986	.1691	25
BW	.1170	.1024	39
CC	-.1112	.1206	59
CF	-.1517	.0356	192

The mean rating was 6.09, suggesting a modest positive reaction to fresh beef versus pork in convenience and preparation time. None of the correlations except the educational variable (CF) were highly significant. The families with more part-time workers (BS) and the \$40,000-60,000 income group (BW) were positive in their ratings. The \$15,000-25,000 income group (BU) and the 40-50 year age group (CC) were not. Overall, the response was positive for beef, but the highly significant and relatively large correlation with education should give reason for concern in any merchandising effort. The fact that ratings were as low as 1.0 with a major concentration of ratings at 5.0 is also informative.

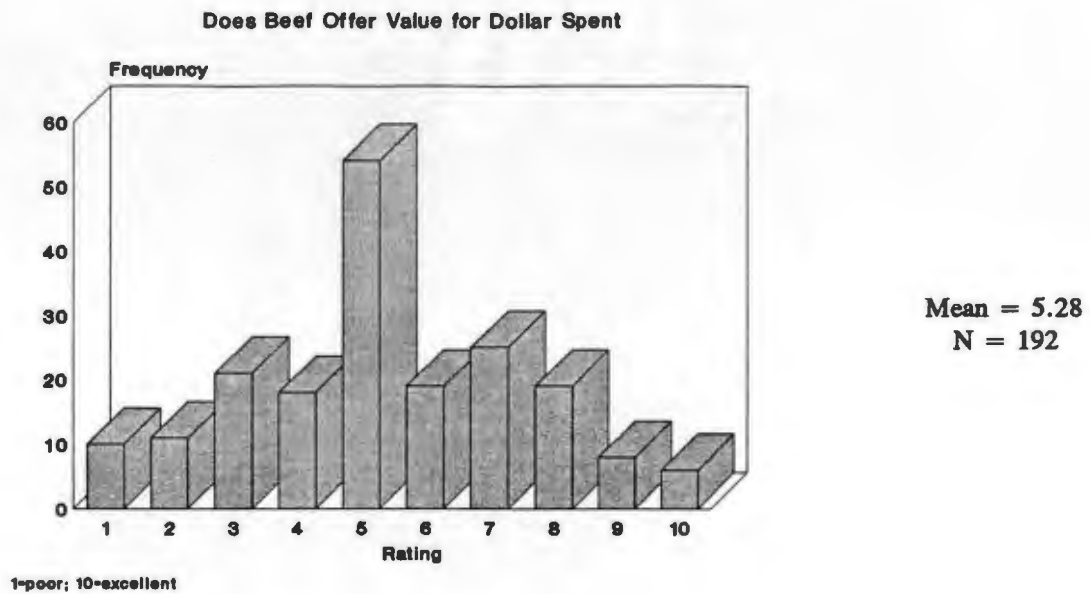
Question: *How you rate fresh beef compared to chicken in convenience and time needed to prepare a meal. (Assume a rating of 5 means beef and chicken are equal.)*



<u>Socioeconomic Variable</u>	<u>Pearson Correlation</u>	<u>P-Level</u>	<u>N</u>
BY	-.1489	.0382	27
CF	-.2236	.0019	190

The highest income group (BY) and the more highly educated (CF) were negative in their ratings. Given the mean response of 5.31 and the correlations, beef does not compete as well with chicken as it did with pork in terms of convenience and preparation time. The negative responses from the higher income families and the better education are a matter of concern given the relatively large correlations (-.2236 on the CF variable) and the fact that both are highly significant. Note also the higher frequency of ratings in the 2-4 range than was the case for pork. Efforts to improve the convenience of beef should prove productive in any merchandising program. The popularity of deli-prepared meats and the move to precooked meats in some supermarkets attests to the consumers' willingness to pay for convenience. This willingness to pay is especially prevalent for the higher income and better educated families.

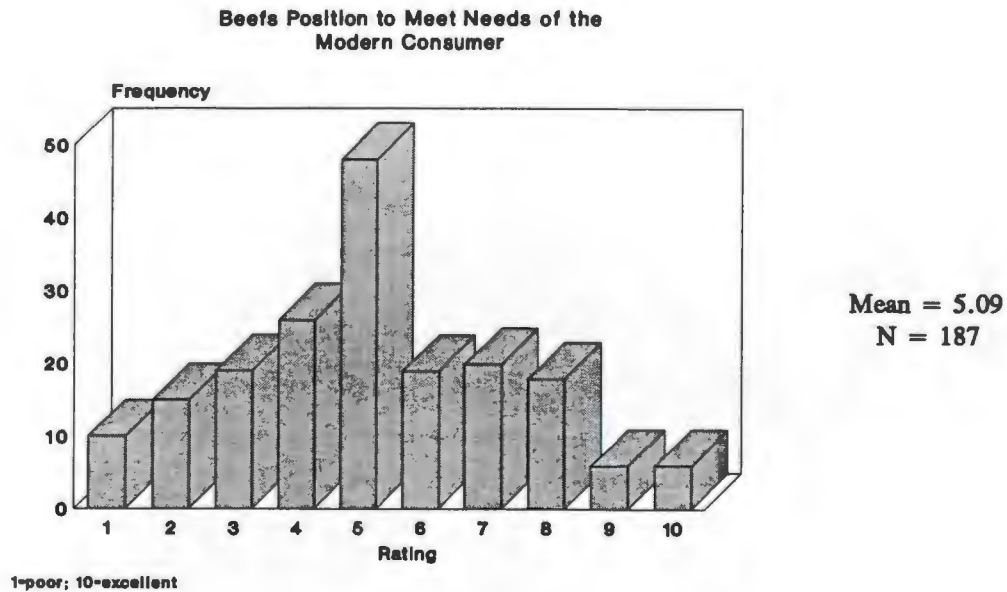
Question: *How well the beef industry has done in offering you value for the dollars you spend on fresh beef.*



<u>Socioeconomic Variable</u>	<u>Pearson Correlation</u>	<u>P-Level</u>	<u>N</u>
BP	-.0965	.1841	191
BR	-.1600	.0419	162

The mean rating is 5.28, but there is dispersion in the responses as indicated by the histogram. The families with more full-time workers (BP) and the families with more full-time wage earners (BR) are not positive, suggesting the presence of concern about the value they are being offered. Perhaps the most important conclusion from this question is the concern that is raised by the frequency of answers in the lower ratings, with the ratings ranging down to 1.0, and the negative and highly significant correlation with the families with multiple wage earners. A significant percentage of the respondents do not feel good about the "value offered" issue. If price cannot be lowered, then it is important to enhance consumers' perceptions of value, a need that can be integrated into merchandising strategies.

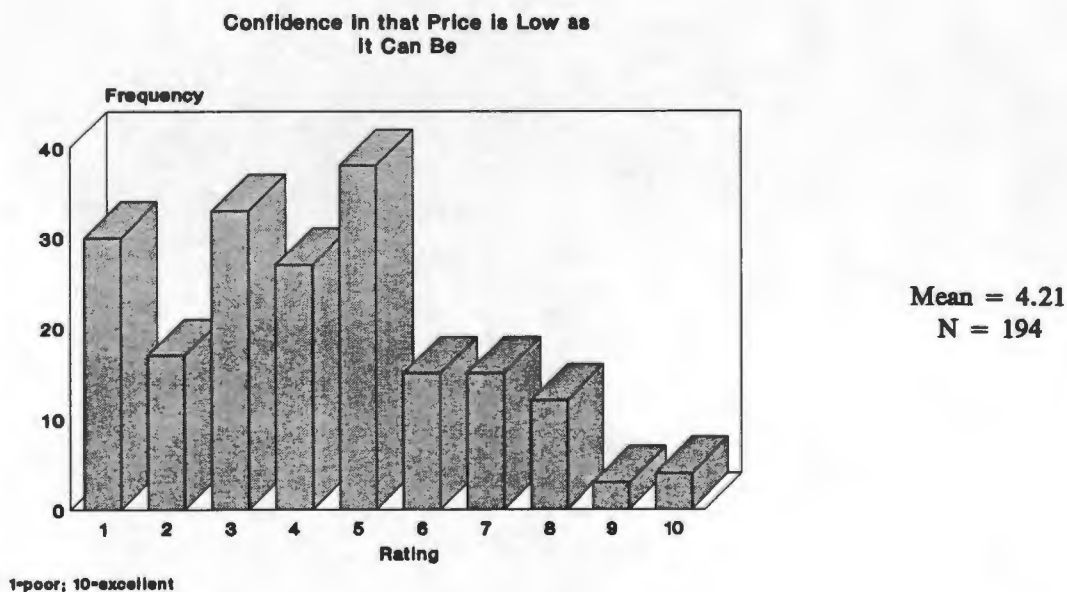
Question: *How well you feel the beef sector is positioned to offer the type of product at a price that will fit the needs of the modern consumer as we move toward 1992.*



<u>Socioeconomic Variable</u>	<u>Pearson Correlation</u>	<u>P-Level</u>	<u>N</u>
BQ	.2008	.1005	68
BY	-.1271	.0828	27
CF	-.1217	.1008	187

In retrospect, this was only marginally a productive question. The mean response is near 5.0, with significant variability or dispersion to the answers. None of the correlations have p-levels below .05, but the negative correlations with the families above \$80,000 income (BY) and the more highly educated (CF) are possibly revealing. Only the families with children under 16 (BQ) were positive in terms of feeling beef is well positioned to meet the needs of modern consumers.

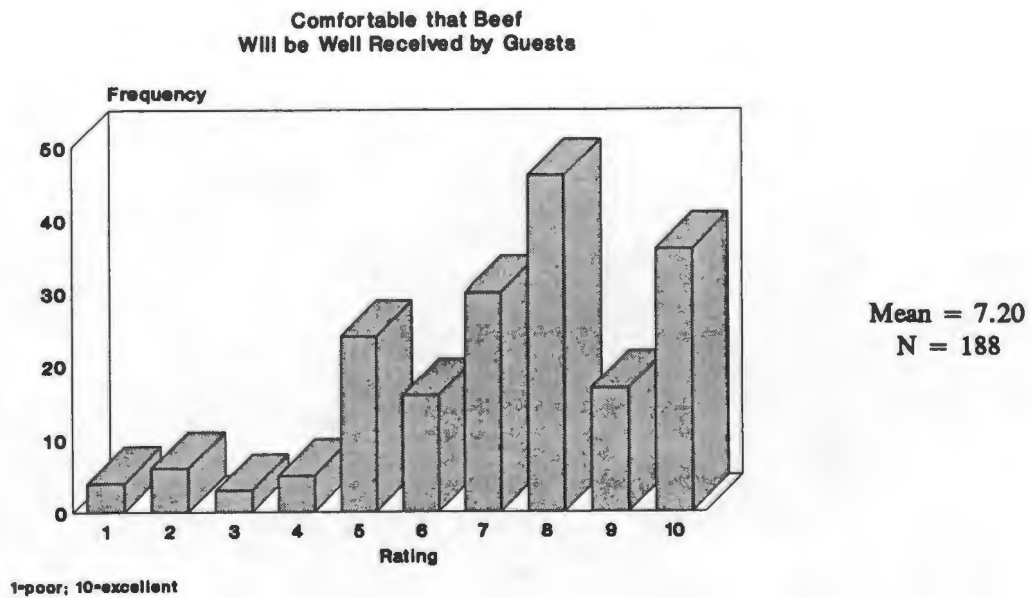
Question: *How confident you are that the price you pay for fresh beef in your supermarket is as low as it can be in 1991.*



<u>Socioeconomic Variable</u>	<u>Pearson Correlation</u>	<u>P-Level</u>	<u>N</u>
BQ	-.2219	.0648	70
BS	.3235	.0301	45

The mean value is only 4.21, suggesting a consensus that beef prices are not as low as they could be. A somewhat expected result, the low mean rating is nonetheless a reason for concern. Prices are generally seen as higher than they could be, and this perception should either be corrected or the value of the produce (convenience, quality control, etc.) enhanced so that the prices do not appear to be too high. The families with children under 16 (BQ) were quite negative in their impressions. Families with part-time wage earners (BS) were positive. A relatively high percentage of families in the BS grouping was rural and/or farm families.

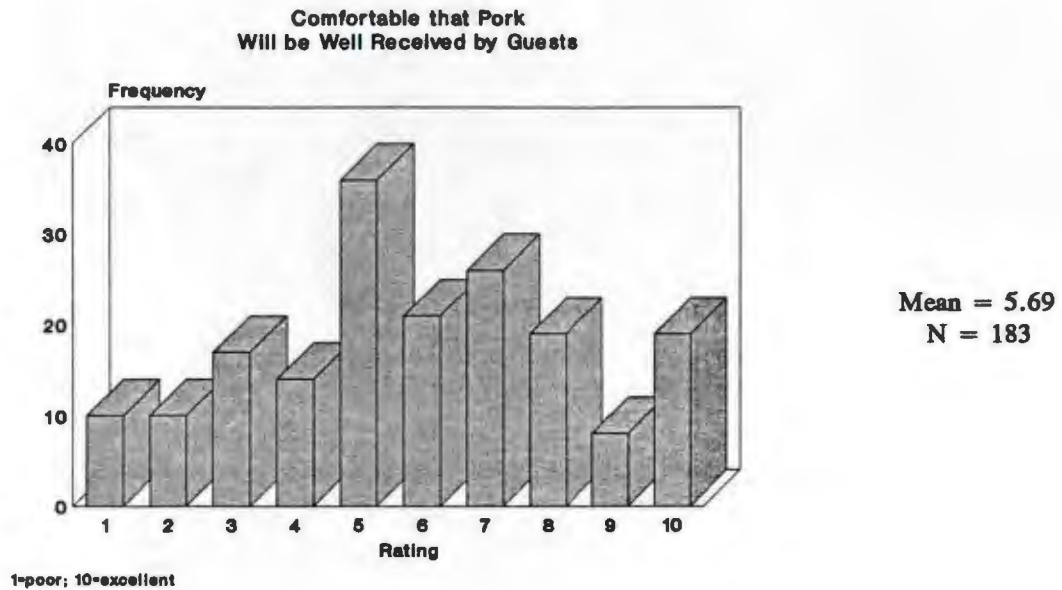
Question: *How comfortable you are in serving beef when you have company and want your meal to be well received and acceptable to everyone.*



<u>Socioeconomic Variable</u>	<u>Pearson Correlation</u>	<u>P-Level</u>	<u>N</u>
BQ	.1760	.1541	67
CE	-.1831	.0119	36
CF	-.1665	.0239	188

The mean rating suggests most families are comfortable serving beef to dinner guests, but the histogram shows dispersion in the answers. Families with children less than 16 (BQ) are positive, but the correlation is not highly significant. The correlations with the group over 60 (CE) and the better educated (CF) are negative, relatively large, and are highly significant. This latter finding suggests programs to reach the consumers over 60 and the better educated would be important to the industry. Comments on the returned survey forms indicate the older and better educated respondents were more sensitive to the eating habits of "company", and were more inclined to move toward a varied offering of foods rather than focusing attention on beef as the main entree.

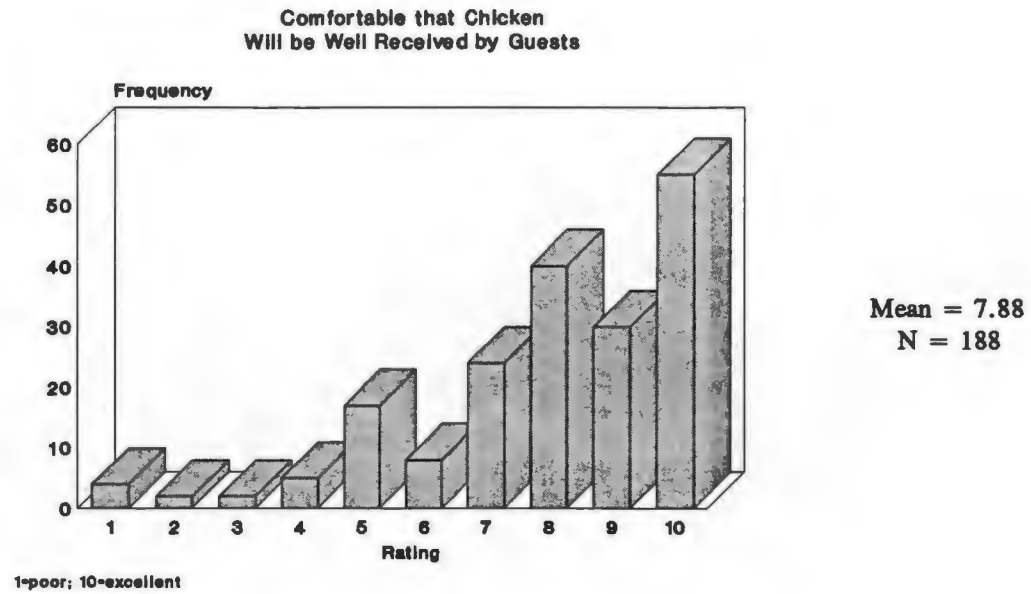
Question: *How comfortable you are in serving pork when you have company and want your meal to be well received and acceptable to everyone.*



<u>Socioeconomic Variable</u>	<u>Pearson Correlation</u>	<u>P-Level</u>	<u>N</u>
BV	-.1010	.1736	47
CB	.1045	.1591	50
CF	-.1691	.0236	179

The mean rating for pork is significantly below the level for beef. The 30-40 age group (BV) is positively correlated, but the relationship is not highly significant. Both the \$25,000-40,000 income group (BV) and the better educated respondents (CF) were negatively correlated with the rating on pork. The result for the better educated continues a negative pattern in the ratings of both beef and pork that shows up in many of the questions. Concerns about serving pork to individuals who are not allowed to eat pork for religious reasons could have complicated the responses to this question.

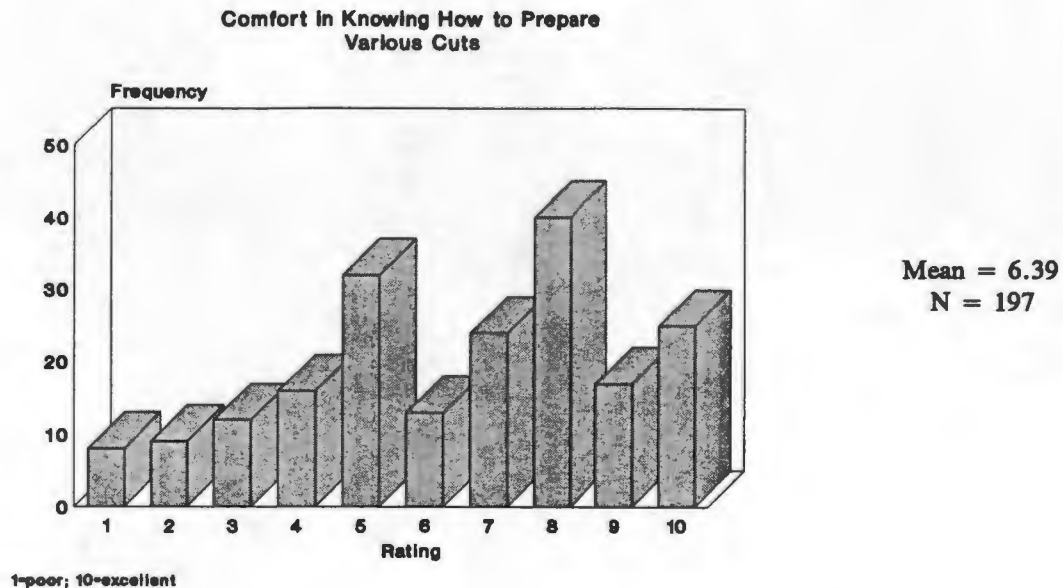
Question: *How comfortable you are in serving chicken when you have company and want your meal to be well received and acceptable to everyone.*



<u>Socioeconomic Variable</u>	<u>Pearson Correlation</u>	<u>P-Level</u>	<u>N</u>
BV	-.2347	.0012	48
BY	.1139	.1194	27
CD	-.1200	.1009	24

The mean level is very high, and is slightly higher than that for beef. The dispersion in the responses is also slightly lower than was the case with beef with more of a tendency toward the higher ratings. There is a higher frequency of responses in the 5.0 and higher categories. The correlation analysis shows a very strong negative correlation with the \$25,000-40,000 income range, the BV variable. This group was much more likely to look negatively toward chicken than the average respondent, perhaps because of "status" reasons. Conversely, there is a weak positive correlation with the very high income group measured by BY and the 40-50 age group (CD). Chicken is obviously well received across most respondents, and the overall pattern of acceptance matches or exceeds that of beef and exceeds that of pork.

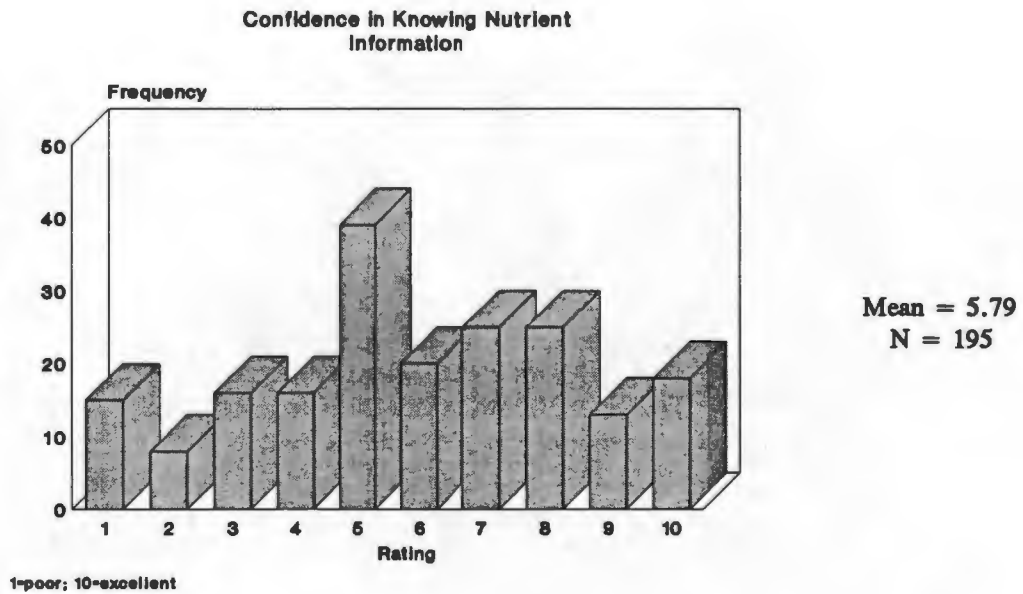
Question: *How comfortable you are that you know how to prepare the various cuts of beef so that you can shop for the best buy of cuts in the supermarket.*



<u>Socioeconomic Variable</u>	<u>Pearson Correlation</u>	<u>P-Level</u>	<u>N</u>
BP	.1417	.0474	196
BR	.1694	.0295	165
BU	-.1540	.0340	24
CA	-.2017	.0045	19
CB	-.1909	.0072	53
CD	.1449	.0822	24
CE	.1354	.0577	41

The mean level is relatively high at 6.39, but the dispersion is quite large compared to other questions. The question was a planned redundancy relative to earlier questions, and confirms an important finding: the younger respondents do not know cuts of beef well enough to identify the best buy. The negative correlations on BU (\$15,000-25,000 incomes), CA (20-30 age group), and CB (30-40 age group) are all relatively large in absolute value and are highly significant. Conversely, the two older age groupings (CD and CE) are positively correlated with the rankings. The families with more adults (BP) and more full-time workers (BR) are also positively correlated. Any efforts to merchandise beef more effectively must involve programs to clear up the confusion in the minds of the 20-40 year-old consumer about what a particular cut of beef is designed for and when it should be used. The frequency of ratings at 5.0 and below is cause for major concern and should be addressed by the industry.

Question: *How confident you are that you know the nutrient information for ground beef, steaks, roasts, etc. and can shop for the cuts of beef that fit your needs.*



<u>Socioeconomic Variable</u>	<u>Pearson Correlation</u>	<u>P-Level</u>	<u>N</u>
BU	-.1070	.1362	25
CA	-.2037	.0043	19
CE	.1459	.0418	40

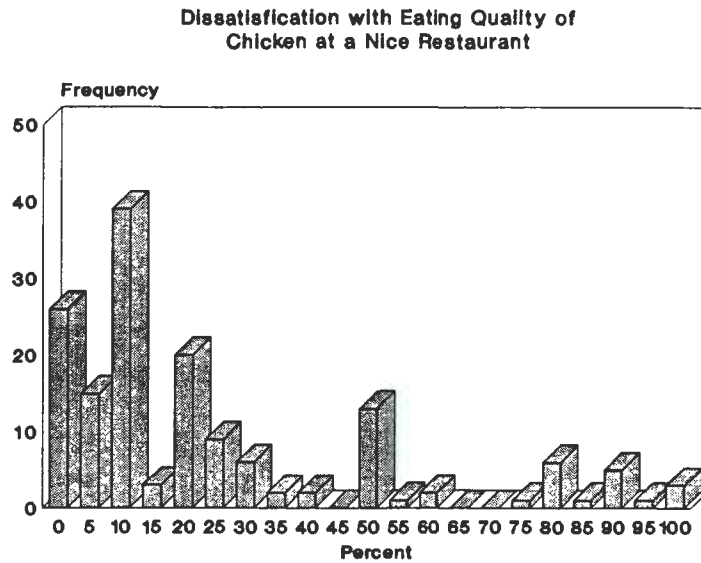
The mean level is 5.79, and the dispersion revealed by the histogram is large. There is, it would appear, less than adequate knowledge about nutrient levels in beef and a great deal of disparity in the knowledge that does exist. The correlation analysis show only three significant measures, but they show a now-familiar pattern. The younger families with the respondent in the 20-30 year range (CA) show a large and highly significant negative correlation. The lower income grouping, \$15,000-25,000 (BU) shows a negative but not highly significant correlation. Conversely, the over 60 group (CE) appears to know nutrient levels and to be able to shop with comfort. When combined with earlier evidence on knowledge of cuts, etc., the conclusion that the younger and lower income households need better knowledge as they shop for beef is unavoidable. Any merchandising strategy must deal with this finding.

Section 2: Measures of Perceptions of Quality, Price, Value of Lean Products and Related Product and Industry Characteristics by Socioeconomic Profile of Consumers

In this section, a percentage scale from 0 to 100 is employed in many of the questions. In others, respondents were asked to select one of several alternatives. The presentation will follow the format established in Section 1. The histograms will show the frequency of the answers, with the percentages in 5-point intervals. "N" will indicate the number of respondents answering the particular question. Correlations with the socioeconomic variables will be presented in the same format used in Section 1. For the answers involving percentages, a statistically significant and positive correlation indicates that group of respondents tended to answer in terms of large percentages. A negative correlation means they used smaller percentages. When the respondents selected one of several answers, a statistically significant positive correlation indicates that group of respondents tended to select that particular alternative. A negative correlation indicates they tended to avoid that alternative. The number of observations upon which the correlation is based is shown for each socioeconomic grouping.

The same symbolism used earlier for the socioeconomic variables will be employed again. In the conclusions paragraph, the variables will generally be explained to facilitate reading and understanding of the results.

Question: *How often you have been dissatisfied with the eating quality of chicken when you eat in a nice restaurant.*

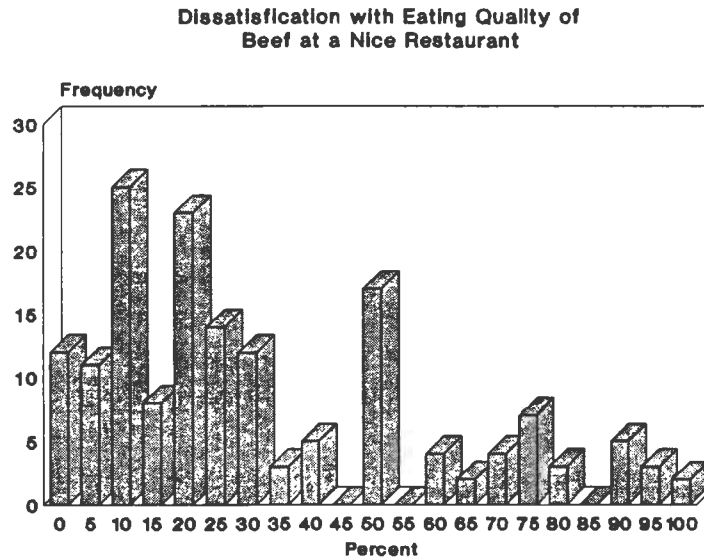


Mean = 27.59
N = 187

<u>Socioeconomic Variable</u>	<u>Pearson Correlation</u>	<u>P-Level</u>	<u>N</u>
BY	-.1021	.1644	27
CD	.1009	.1694	23
CF	-.2328	.0015	184

The highest income group (BY) shows a negative correlation. The 50-60 age group (CD) is positive, but neither relationship is highly significant. The rankings were negatively correlated with education (CF) and this relationship is very strong in a statistical context. The higher the level of education, the lower the ratings tended to be. This result is consistent with findings in Section 1 that indicated the more highly educated viewed chicken in a favorable context, but it may also be due to the possibility that the better educated eat in better restaurants. The mean, at 27.59 percent, is high suggesting a relatively high frequency of displeasure in restaurant dining.

Question: *How often you have been dissatisfied with the eating quality of beef when you eat at a nice restaurant.*

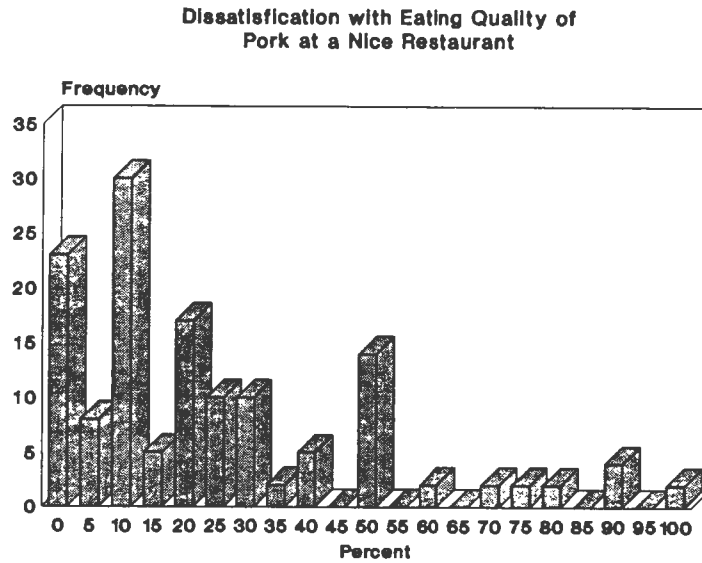


Mean = 32.35
N = 188

<u>Socioeconomic Variable</u>	<u>Pearson Correlation</u>	<u>P-Level</u>	<u>N</u>
BR	.1644	.0371	161
CA	-.1618	.0265	19
CF	-.1208	.1014	185

The families with more full-time workers (BR) tend to find beef quality variation to be a problem, but the 20-30 year group (CA) shows a negative correlation. Consistent with the findings in the previous question with chicken, the better educated tended to answer in terms of smaller percentages. This latter relationship shows a p-value of only .1014, however. Once again, the mean—above 32 percent—is the really important finding in this question. Taken literally, that result suggests consumers are dissatisfied with eating quality of beef in a restaurant setting almost one-third of the time. Strategies to improve this record are clearly needed.

Question: *How often you have been dissatisfied with the eating quality of pork when you eat at a nice restaurant.*

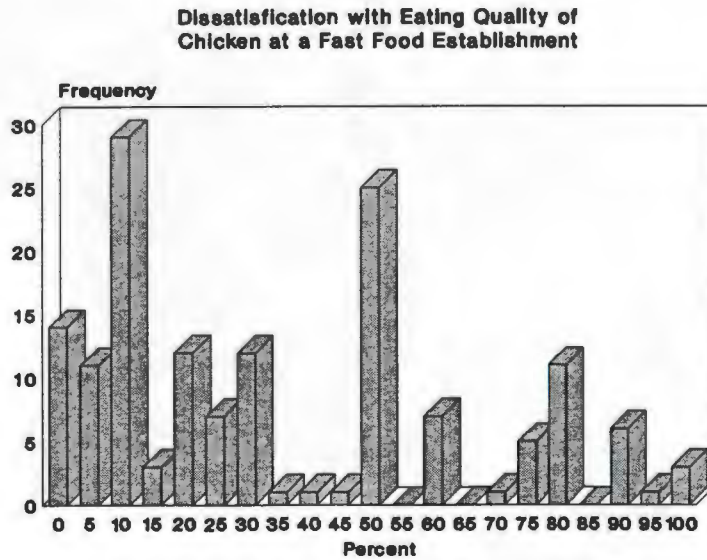


Mean = 26.68
N = 158

<u>Socioeconomic Variable</u>	<u>Pearson Correlation</u>	<u>P-Level</u>	<u>N</u>
BS	-.2401	.1855	32
CF	-.1771	.0274	155

The families with more part-time wage earners (BS) rated quality problems with pork in restaurants low, as did the more highly educated (CF). The first relationship is not statistically strong, the second is strong with a p-value of .0274. The more highly educated respondents tended to express lower levels of quality variation across all the meats--chicken, beef, and pork. The mean response, at 26.68, is slightly below that for chicken and well below that for beef. It should be noted that fewer respondents have experience with eating pork in restaurants and the differences in the number of respondents could have influenced the mean ratings.

Question: *How often you have been dissatisfied with the eating quality of chicken when you eat at a fast food operation.*

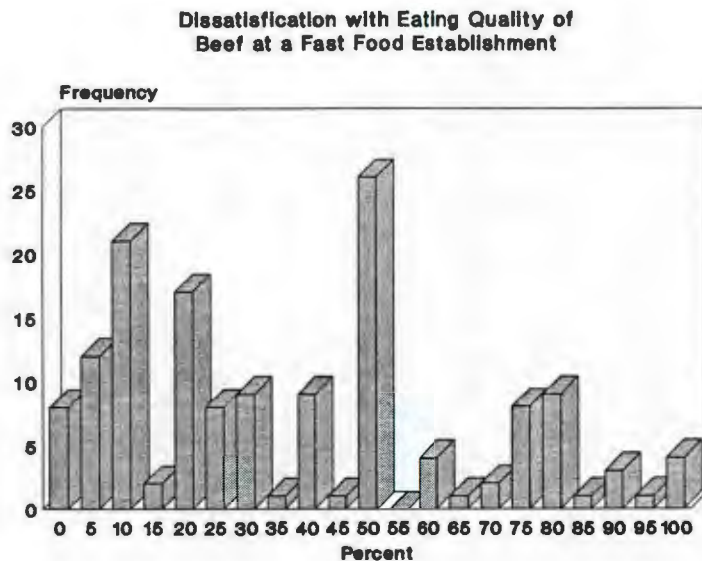


Mean = 36.33
N = 179

<u>Socioeconomic Variable</u>	<u>Pearson Correlation</u>	<u>P-Level</u>	<u>N</u>
BT	.1000	.1826	179
BX	-.1080	.1501	43
CB	-.1638	.0284	55
CD	.0967	.1976	21
CE	.1148	.1259	30
CF	-.1383	.0671	176

The very low income families (BT) and the two older age groups, the 50-60 group (CD) and the over 60 group (CE), all show a positive correlation, but the p-values in all cases exceed .10. The \$60,000-80,000 income group (BX), the 30-40 age group (CB) and the more highly educated (CF) all show a negative correlation. The relationships for CB and CF are highly significant in a statistical context. The mean rating is very high at 36.33, suggesting major problems with quality and consistency in the fast food business.

Question: *How often you have been dissatisfied with the eating quality of beef when you eat at a fast food operation.*

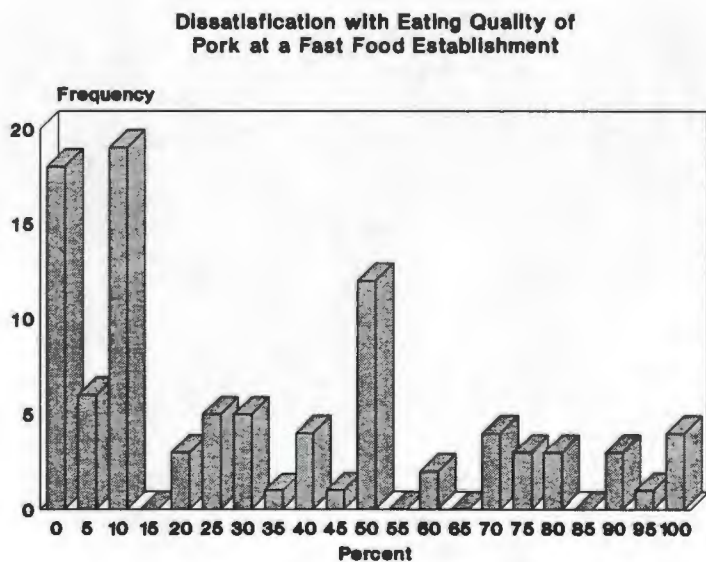


Mean = 38.25
N = 174

<u>Socioeconomic Variable</u>	<u>Pearson Correlation</u>	<u>P-Level</u>	<u>N</u>
BT	.1431	.0595	6
CA	-.0985	.1958	17
CE	.1246	.1013	29

Easily the most significant finding is the mean of 38.25. This exceeds the level of dissatisfaction in restaurant dining and, on average, indicates concerns over one-third of the time. The very low income families (BT) rated problems high, but there were only 6 observations from this income level. Neither of the other two correlations that met the .20 cutoff criterion were highly significant. The 20-30 age group (CA) shows a negative correlation; the over 60 group (CE), a positive correlation. Overall, this level of dissatisfaction has to be seen as a serious issue for the industry. The 38.25 is the highest mean rating of any of the questions that involved an answer on a 0 to 100 percentage scale, and the pervasive problems with beef in fast food uses may extend into the attitude toward fresh beef and home consumption. Efforts to improve consistency in quality and to push the quality component will be important whatever the form of beef consumption.

Question: *How often you have been dissatisfied with the eating quality of pork when you eat at a fast food operation.*

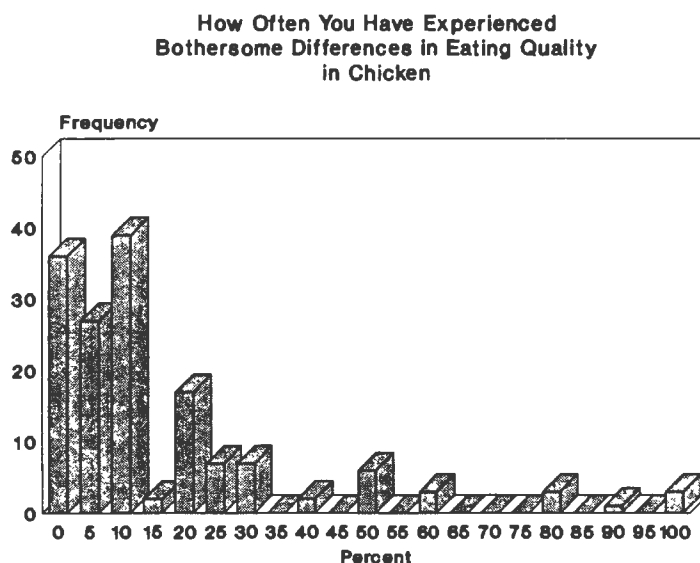


Mean = 30.88
N = 113

<u>Socioeconomic Variable</u>	<u>Pearson Correlation</u>	<u>P-Level</u>	<u>N</u>
BR	.2367	.0183	99

Fewer people eat pork at fast food establishments. The mean response was 30.88, with only the families with more full-time wage earners showing a statistically significant correlation. It is positive, indicating this group of consumers experience more quality problems with pork. The mean rating of 30.88 continues the pattern of quality problems in fast food establishments.

Question: *How often you have been dissatisfied with the eating quality of chicken when you prepare a meal and eat at home.*

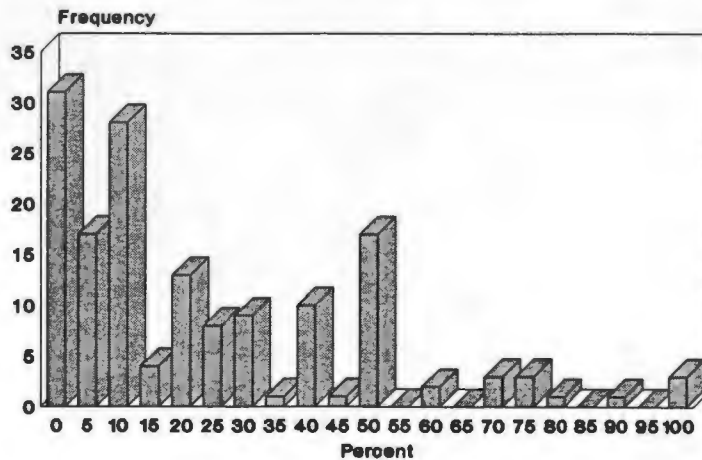


<u>Socioeconomic Variable</u>	<u>Pearson Correlation</u>	<u>P-Level</u>	<u>N</u>
BT	.1363	.0643	7
BV	.0975	.1865	43
CA	-.1386	.0599	18
CB	-.1121	.1092	53
CD	.2092	.0043	22
CE	.0974	.1868	34
CF	-.1244	.0952	185

The very low income (BT) and middle income families (BV) tend to experience more eating quality problems for chicken prepared at home. The same is true for the 40-60 year group (CD) and the over 60 group (CE). The correlation for CD is especially strong in a statistical sense. Conversely, the 20-30 age group (CA), and the 30-40 age group (CB), and the more highly educated (CF) were less likely to experience problems. The mean level of 15.76 is roughly one-half the levels of dissatisfaction when chicken is consumed at restaurants or at fast food establishments.

Question: *How often you have been dissatisfied with the eating quality of beef when you prepare a meal and eat at home.*

How Often You Have Experienced
Bothersome Differences in Eating Quality
in Beef

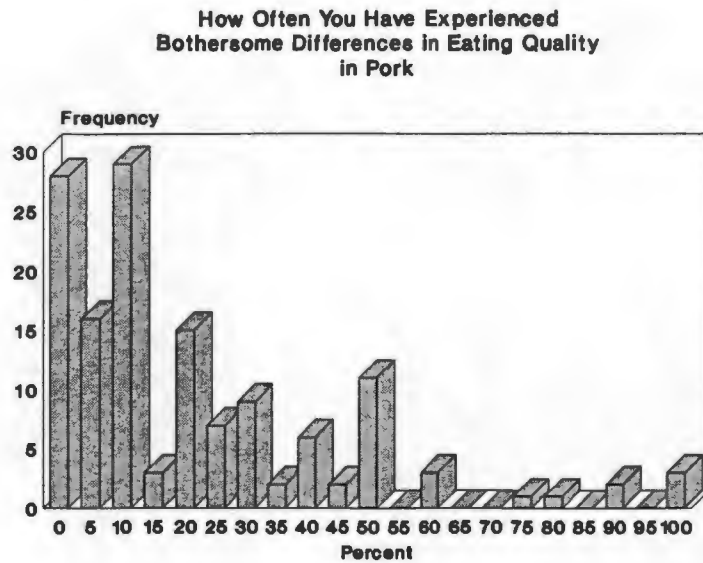


Mean = 20.70
N = 186

<u>Socioeconomic Variable</u>	<u>Pearson Correlation</u>	<u>P-Level</u>	<u>N</u>
CA	-.1266	.0849	19
CB	-.1134	.1230	51
CE	.1126	.1257	36

The mean rating of 20.70 is a "good news-bad news" phenomenon. On the positive side, it is well below the means given beef when it is consumed outside the home. On the negative side, it is significantly above the rating given chicken consumed at home, and indicates respondents were dissatisfied with the eating quality of beef they prepared at home over 20 percent of the time. This is a very important finding. The correlations show more favorable responses than the average response for the younger respondents (20-30 years, CA and 30-40 years, CB). Conversely, the respondents over 60 (CE) experience more quality problems. None of the correlations are especially strong in a statistical sense. The mean rating is the key finding here, and suggests the need for substantial improvement in quality control and helping consumers make sure they know which cut of beef to buy and how to prepare it. The histogram shows "spikes" at 20, 30, 40, and again at 50. Fifteen to 20 percent of the respondents marked the "50 percent" answer, and this is indicative of major problems and pervasive dissatisfaction. This issue needs urgent attention in product development, in packaging, and in helping to ensure the customer buys the product that is right for the intended use and prepares it correctly.

Question: *How often you have been dissatisfied with the eating quality of pork when you prepare a meal and eat at home.*

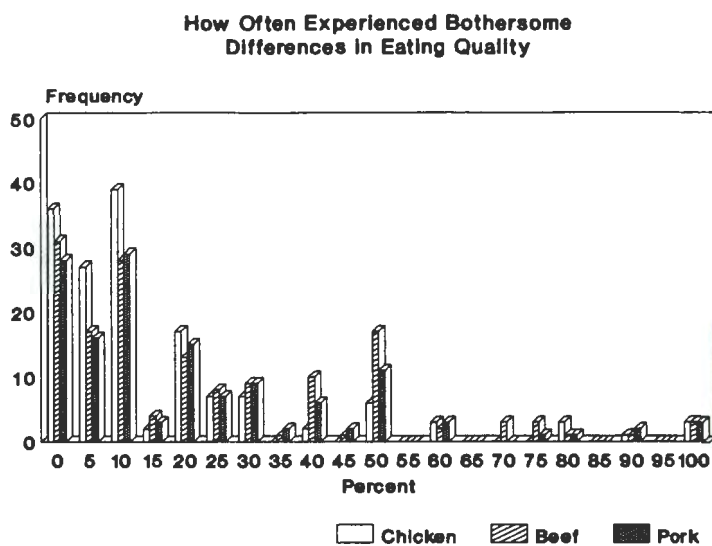


Mean = 18.61
N = 171

<u>Socioeconomic Variable</u>	<u>Pearson Correlation</u>	<u>P-Level</u>	<u>N</u>
CA	-.1041	.1752	17
CB	-.1225	.1103	48
CD	.2160	.0045	20

The mean rating for pork consumed at home lies between those for chicken and beef. The younger age groups (CA and CB, 20-30 and 30-40, respectively) experience fewer problems with quality for pork consumed at home. The 50-60 year group apparently experience more. This is the same pattern observed for beef (previous question) and the same three socioeconomic variables are present. Apparently, beef and pork are received similarly in terms of eating quality for product consumed at home.

Question: *How often you have experienced what you feel are bothersome differences in eating quality as you think about chicken, beef, and pork.*



Chicken: Mean = 16.24
 N = 154

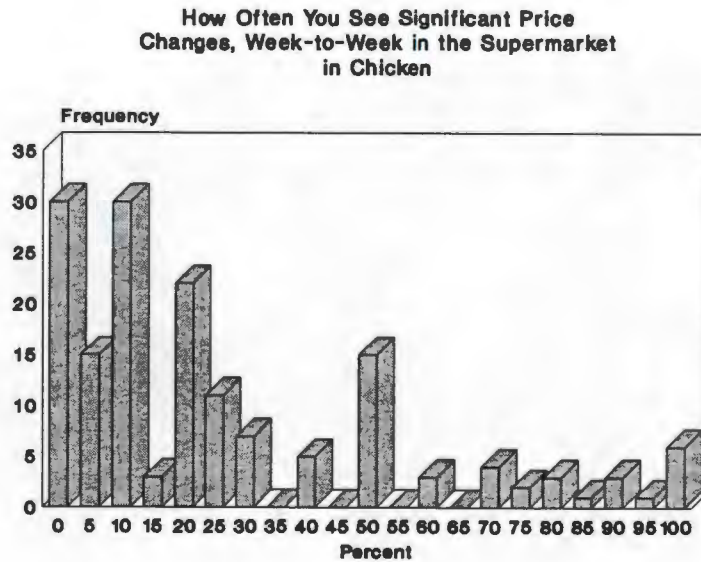
Beef: Mean = 23.36
 N = 153

Pork: Mean = 21.32
 N = 140

<u>Socioeconomic Variable</u>	<u>Pearson Correlation</u>	<u>P-Level</u>	<u>N</u>
BQ	.3283	.0144	55
CE	.1109	.1721	29
CF	-.1238	.1297	153

The correlations are for beef only. The families with children under 16 (BQ) show a very large positive correlation that is highly significant. The over 60 group (CE) show a modest positive correlation, and the better educated (CF) a modest negative correlation. The question was planned to be redundant to earlier questions, and the pattern of answers are very similar. Though not recorded here, there was a tendency for the lower income groups to rate problems in chicken high and a tendency for the younger families to rate them low. In this overall question, the mean rating of 23.36 for beef reinforces the need for concern over quality control and consumer satisfaction.

Question: *How often you see significant price changes, changes big enough to bother you from week-to-week, in your supermarkets for chicken.*



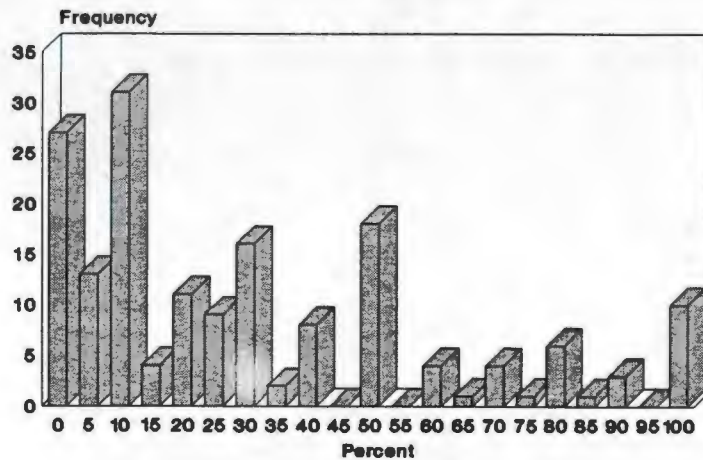
Mean = 26.17
N = 162

<u>Socioeconomic Variable</u>	<u>Pearson Correlation</u>	<u>P-Level</u>	<u>N</u>
BV	.1189	.1316	39
BY	-.2339	.0027	21
CA	.1171	.1376	15
CB	-.1348	.0870	50
CC	-.1339	.0893	50
CE	.1397	.0761	28
CF	-.1530	.0534	160

The high income respondents (BY), the 30-40 group (CB) and the 40-50 group (CC), and the more highly educated (CF) all tended to rank low. These groups apparently are not bothered by week-to-week price changes in chicken, either because they can afford not to worry or because they want chicken in their diets. Of the positive correlations, only CE (over 60 age group) is highly significant, and this may be due to concerns over food costs. The \$25,000-40,000 income group (BV) and the younger 20-30 year old respondents (CA) show positive but not highly significant ratings. The mean response is just above 26 percent.

Question: *How often you see significant price changes, changes big enough to bother you from week-to-week, in your supermarkets for beef.*

How Often You See Significant Price Changes, Week-to-Week in the Supermarket in Beef



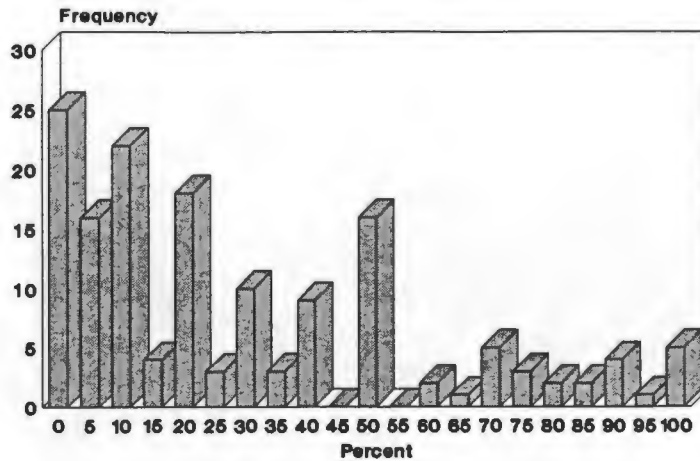
Mean = 32.19
N = 169

<u>Socioeconomic Variable</u>	<u>Pearson Correlation</u>	<u>P-Level</u>	<u>N</u>
BT	.1706	.0265	6
BU	.1912	.0128	21
BV	.1360	.0778	44
BW	-.1286	.0955	35
BY	-.1508	.0503	22
CA	-.1460	.1887	17
CC	-.1181	.1259	52
CE	.2609	.0006	32
CF	-.1437	.0638	167

All the lower income brackets (BT, BU, and BV) show a tendency to be bothered by week-to-week price changes in beef. Conversely, the two higher income groups (BW and BY) show a negative correlation. The over 60 group (CE) is obviously concerned. The .2609 correlation is quite high, and is very, very significant with a p-value of less than .001. Two other age groups (CA and CC) show negative but not highly significant correlations. The better educated (CF) tend to be less bothered by price changes. The high mean rating at 32.19 and the pervasive concerns across the lower income brackets must be considered in any in-store merchandising strategy for beef and in any presentation program. Prices need to be stabilized or as an alternative, product attitudes and perceptions of value need to be enhanced to mitigate the product price problems.

Question: *How often you see significant price changes, changes big enough to bother you from week-to-week, in your supermarkets for pork.*

How Often You See Significant Price Changes, Week-to-Week in the Supermarket in Pork

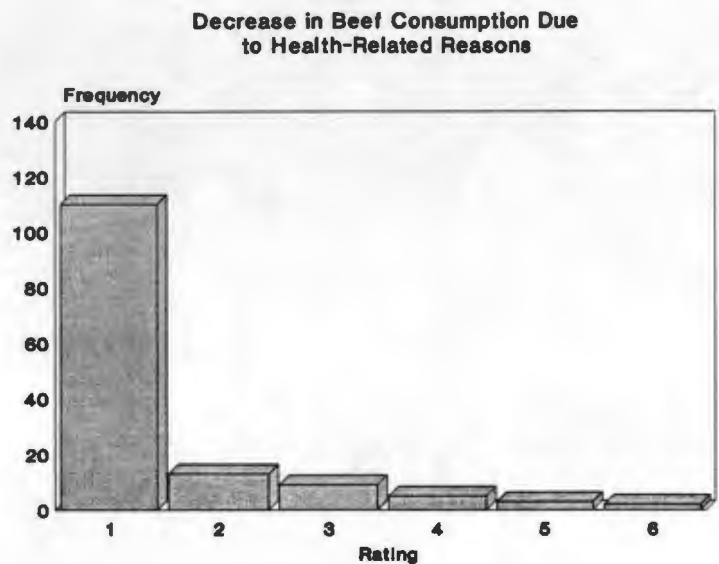


Mean = 28.99
N = 153

<u>Socioeconomic Variable</u>	<u>Pearson Correlation</u>	<u>P-Level</u>	<u>N</u>
BT	.1084	.1821	5
BU	.1645	.0421	21
BV	.1362	.0931	36
BY	-.2545	.0015	22
CA	-.1286	.1129	14
CC	-.1511	.0623	49
CD	.1182	.1456	17
CE	.2246	.0053	29
CF	-.1647	.0425	152

The pattern of responses to concern over price changes for pork parallels that of beef very closely. The lower income groupings (BT, BU, BV) and the two older groups (CD and CE) show positive correlations. The correlations for BU and CE are especially strong in a statistical sense, and the correlation of .2246 for CE is large relative to other correlations. The high income group (BY), two age groups, the 20-30 (CA) and the 40-50 (CC), and the higher educated (CF) show negative correlations. As was the case with beef, it is the lower income respondents and the older respondents that have the concerns about price changes.

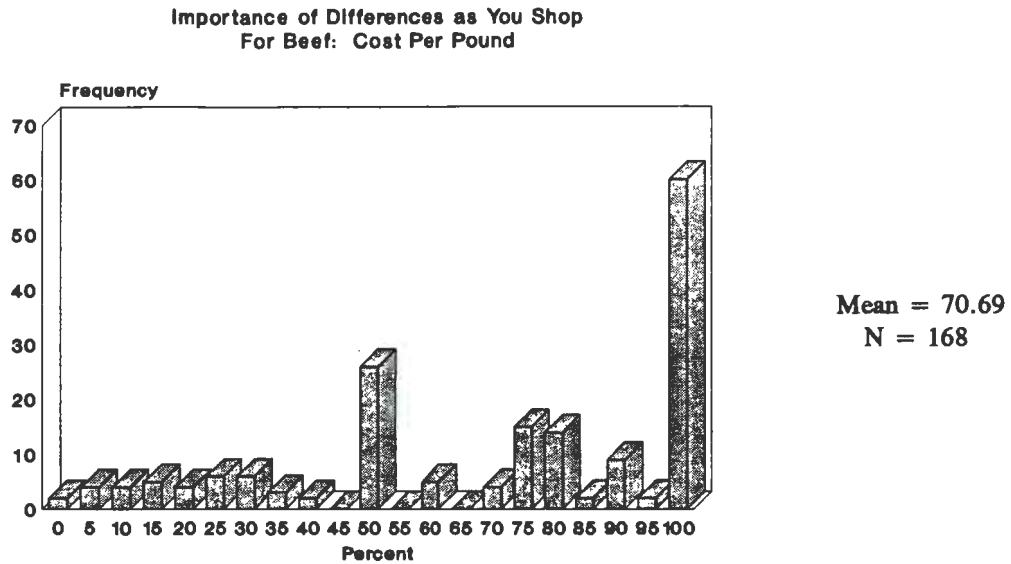
Question: *Reasons that your beef consumption per person decreased: (1) Price of beef relative to other meats; (2) Beef is not convenient to use (ex.-not microwaveable); (3) Health-related concerns; (4) Inconsistent quality of beef; (5) Switched to other foods for reasons other than price; and (6) Other.*



<u>Socioeconomic Variable</u>	<u>Pearson Correlation</u>	<u>P-Level</u>	<u>N</u>
BP	-.1720	.0477	133
BV	.2049	.0175	28
BX	-.1453	.0939	37
CB	.2295	.0076	34
CD	-.1343	.1218	18
CE	-.1292	.1366	25
CF	-.1674	.0541	133

The histogram and the correlations are for health-related concerns only. Since this question requested a ranking with 1=most important, a negative correlation indicates that particular socioeconomic group considered this factor more important. For the health-related concerns, this suggests families with more adults (BP) the \$60,000-80,000 income group (BX), the 50-60 age group (CD), the over 60 group (CE), and the better educated (CF) were all strongly concerned. Conversely, the \$25,000-40,000 income group (BV) and the 30-40 age group (CB) tended to not see this issue as important. For the "price of beef" component of the question, correlations are not shown, but the lower income groups (such as BU) tended to market the alternative with "1", and the higher income group (BX) was not concerned. The over 60 group (CE) saw price as important; the better educated (CF) did not. There were no clear patterns in answering the alternatives dealing with the convenience of beef. The problems of quality were confirmed in earlier questions and the responses here were consistent. The widespread tendency to react to the health-related issue dominated answers to this particular question.

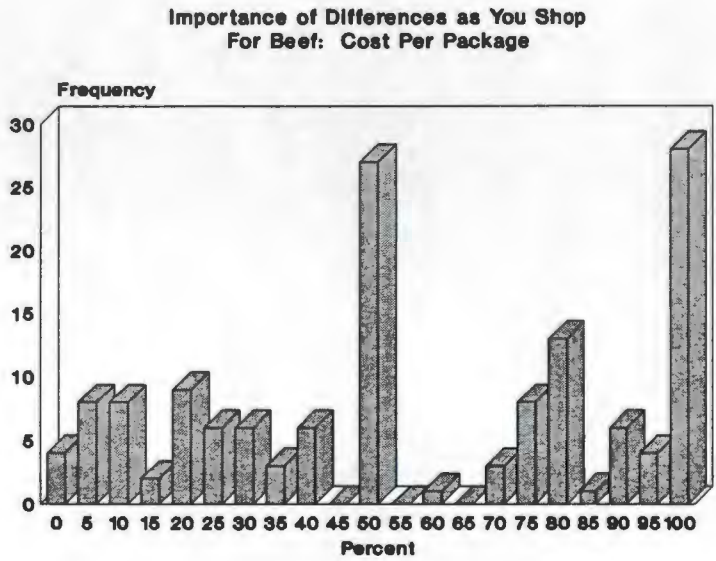
Question: *As you shop for beef in your supermarket, rate the importance of cost per pound.*



<u>Socioeconomic Variable</u>	<u>Pearson Correlation</u>	<u>P-Level</u>	<u>N</u>
BR	.1619	.0551	141
CF	-.1461	.0602	166

The very large mean (70.69 percent) dominates the responses. There was such a tendency toward seeing this as important across all socioeconomic groupings that few significant correlations would be expected. Relative to all other groups, the households with more full-time wage earners (BR) were unusually prone to see cost per pound as important. Conversely, the better educated (CF) did not. This latter result continues a pattern of lower ratings on many of the questions by the better educated. It is important to note that there was a high level of dispersion around the mean with the responses ranging from 0 to 100, with a noticeable "spike" at 50 percent. Merchandising strategies must reflect the fact that all consumers tend to be interested in cost per pound, but not all socioeconomic groups show the same rankings. (This question should be evaluated in concert with the next two questions that deal with the importance of the package costs and importance of the cost per serving.)

Question: *As you shop for beef in your supermarket, rate the importance of the cost for the entire package.*

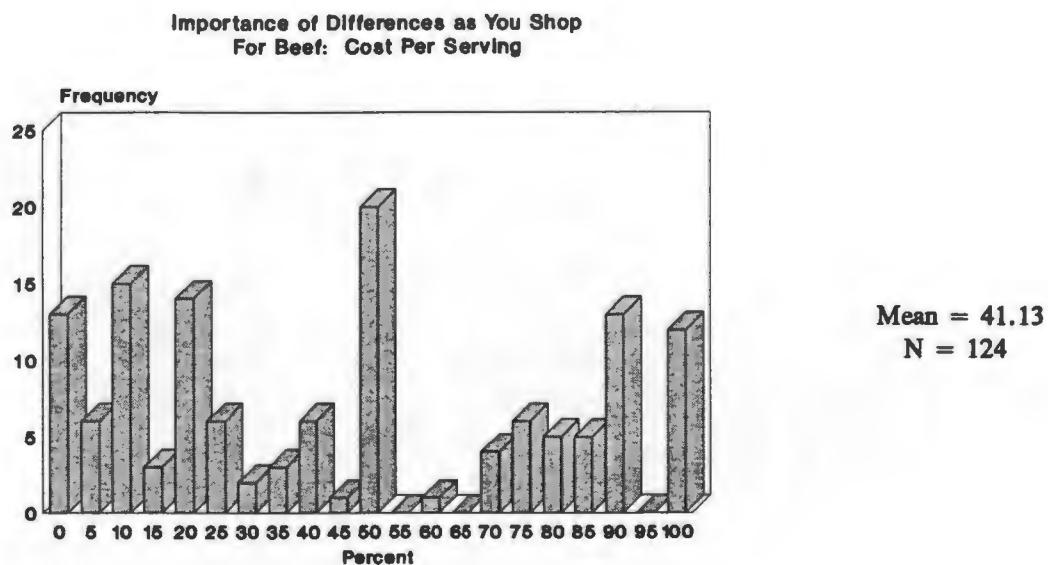


Mean = 57.12
N = 142

<u>Socioeconomic Variable</u>	<u>Pearson Correlation</u>	<u>P-Level</u>	<u>N</u>
BV	.1451	.0849	37
BY	-.1706	.0423	21
CF	-.3073	.0002	141

The \$25,000-40,000 income group (BV) tended to rate package cost high. Neither the high income group (BY) nor the better educated (CF) were so inclined. The correlation for CF, at -.3073, is unusually large in terms of absolute value and it is very significant in a statistical context. This latter result suggests the better educated consumer is not at all interested in total package costs, and the result from the previous question indicates a relative lack of concern over per pound costs. Combined with earlier tendencies to rate relatively low, the importance of this finding is discounted somewhat, but there is basis for an inference that the better educated will tend to buy what they want with no excessive concern over costs. The tendency could be important in planning merchandising and promotion programs. Note that the mean is relatively large at 57.12 percent, indicating widespread concern over package costs. The range was 0 to 100. The 57.12 mean is surprisingly high relative to the 70.69 mean in the previous question that dealt with per pound costs.

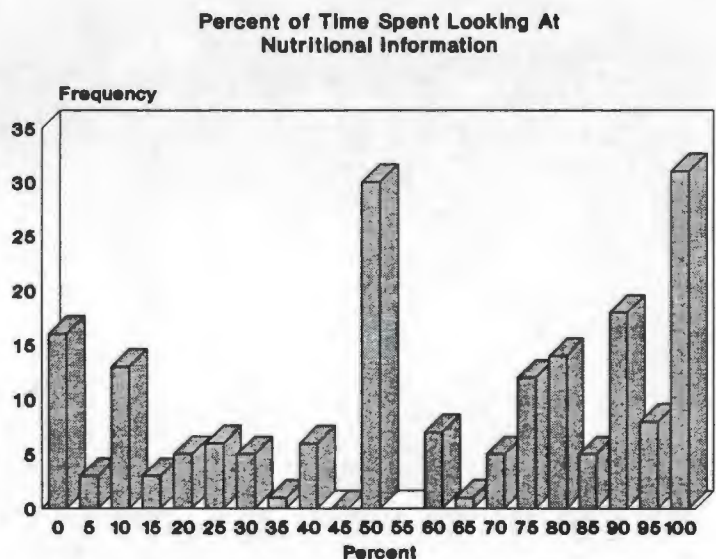
Question: *As you shop for beef in your supermarket, rate the importance of the cost per serving.*



<u>Socioeconomic Variable</u>	<u>Pearson Correlation</u>	<u>P-Level</u>	<u>N</u>
BV	.1317	.1448	32
CB	-.2366	.0082	36
CE	.1691	.0605	23

The \$25,000-40,000 income group (BV) and the over 60 group (CE) tended to rate the importance of per serving costs high. This is consistent with earlier findings and with the written comments in the survey forms. The lower income families such as the BV group have smaller family sizes, are often married couples getting started with no children, and tend to look at per serving cost. The same is definitely true with the older group (CE) who often live alone or have two adults with no children in the household. The 30-40 age group (CB) tended to be less concerned than average about per serving costs. The mean of 41.13 percent, with a range of 0 to 100, suggests a surprising level of interest in per serving costs. Thus, portion size and a variety of packaging alternatives can be a very important part of a merchandising strategy in areas with certain types of consumers. Per pound and per package costs are not the only things that are important, especially to the older consumer.

Question: *Think about all the food products you buy in the supermarket, including meats. Of those that have information on nutrient content (calories, cholesterol, saturated fats, etc.), what percent of the time do you look at that information as you think about buying that product?*



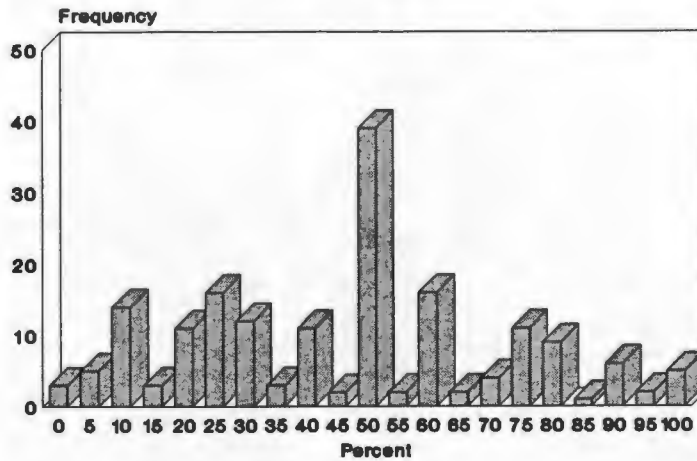
Mean = 58.11
N = 188

<u>Socioeconomic Variable</u>	<u>Pearson Correlation</u>	<u>P-Level</u>	<u>N</u>
BQ	-.2892	.1760	67
CE	.1389	.0572	38

The mean, 58.11, is the key finding here. On average, all the socioeconomic groups pay attention to nutrient information. There is a great deal of dispersion shown in the histogram, and the range is down to zero. But the large mean has strong implications for products like fresh beef that have no specific nutrient information--at least, not to date. Within that overall high rating, the families with young children (BQ) tended to be less concerned and look at nutrient content less often. Conversely, and quite predictably, the over 60 group (CE) does look more than the average consumer. Any merchandising strategy aimed at the older consumer in particular must take this finding into account. It is important for all consumers, of course, given the relatively large mean response.

Question: *Assume a new beef barbecue dish shows up in your store that can be prepared in the microwave in 5 minutes. It is priced competitively with other microwaveable dishes. You are interested and look it over but notice the package has no nutrient labels so you do not know calories, fat level, etc. What percent of the potential customers who look over the package do you think would not buy it because there is no nutrient information?*

Percent of Customers That Would Not Buy
New Barbecue Dish With No Nutritional
Information

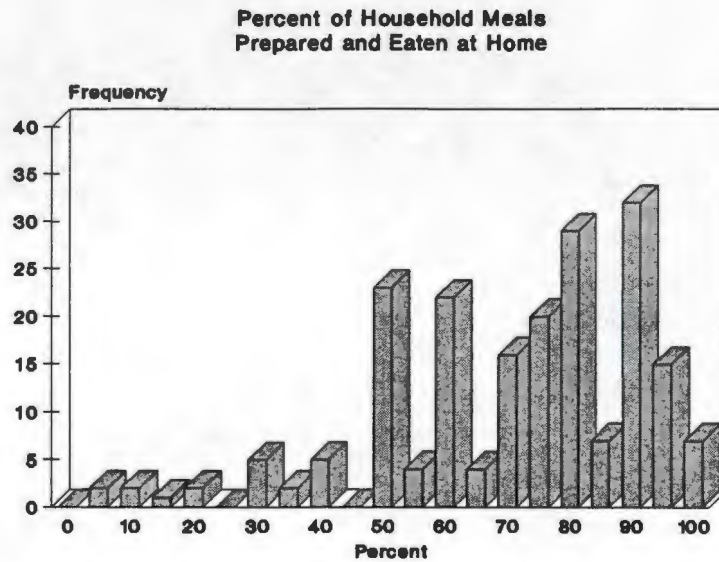


Mean = 44.92
N = 178

<u>Socioeconomic Variable</u>	<u>Pearson Correlation</u>	<u>P-Level</u>	<u>N</u>
BV	.1702	.0231	46
BY	-.2790	.0002	24
CF	-.1215	.1081	176

The question was designed to solicit a "revealed preference" in that consumers will tend to answer in terms of their own impressions and preferences. The mean is a relatively large 44.92 percent, suggesting a new product that meets desires for convenience, etc. will struggle if nutrient information is not provided. The correlation suggests this is especially important to the \$25,000-40,000 income group (BV). Conversely, the very high income group (BY), who may be reacting to the convenience in a microwaveable product, shows a large and very important negative correlation. The better educated (CF) is also negatively correlated and tended to answer in terms of lower numbers, but the relationship is not extremely strong. The mean result is the dominant finding here, stressing the importance of nutrient information in any new product. When extended to existing fresh beef products that offer no nutrient information, there is reason to consider adding information in a progressive merchandising program.

Question: *Enter the percent of your household meals eaten: (1) At home, prepared at home; (2) At home, take-out food from deli, fast food, etc.; (3) Fast food at fast food establishment; (4) Nice, sit-down restaurant; (5) On the go (in car, etc.); and (6) Other.*

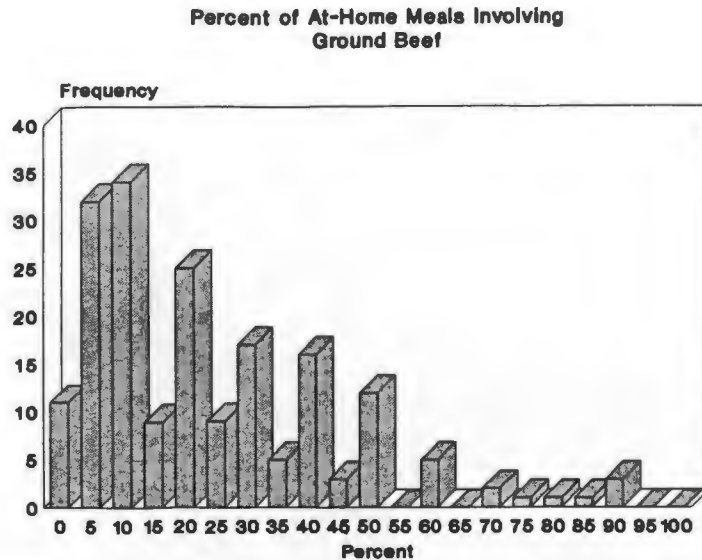


Mean = 70.58
N = 197

<u>Socioeconomic Variable</u>	<u>Pearson Correlation</u>	<u>P-Level</u>	<u>N</u>
BR	-.1551	.0466	165
CA	-.1205	.0915	19
CB	-.0942	.1880	53
CE	.2261	.1683	41

The histogram and the correlations are for food prepared at home only. The mean is above 70 percent. The groups that tend not to eat at home were largely predictable. The households with more full-time wage earners (BR) and the younger families (CA and CB) tend to eat at home less than the average. The over 60 group (CE) stays at home. The means for parts (2) through (5) of the question were 11.09, 8.80, 11.68, and 5.60 percent respectively. The "other" (part 6) category involved eating with friends, etc. and averaged 16.15 percent. The lower income families tended to go to fast food establishments, the older did not. Families with young children do not tend to go to restaurants.

Question: *What percent of your at-home meals involve ground beef?*



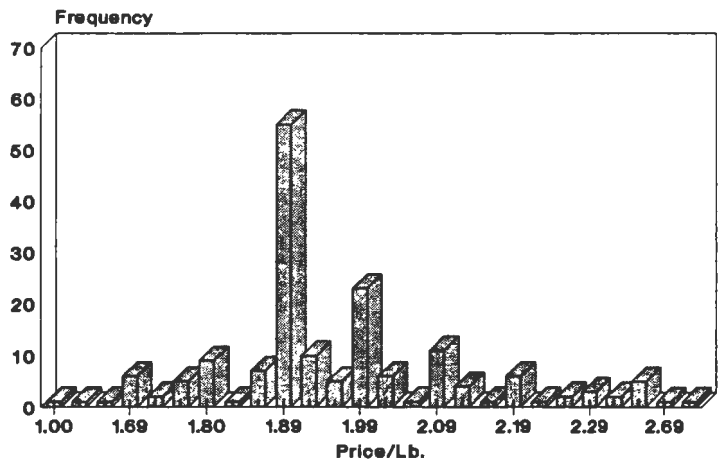
Mean = 23.46
N = 188

<u>Socioeconomic Variable</u>	<u>Pearson Correlation</u>	<u>P-Level</u>	<u>N</u>
BP	.1483	.0422	188
BU	.1154	.1146	24
BV	.2213	.0023	47
BX	-.1198	.1015	43
BY	-.1314	.0664	27
CB	.2194	.0025	52
CE	-.1434	.0496	39
CF	-.3440	.0001	185

The mean response is lower than might be expected given national surveys, but this is for "at-home" meals only. The larger families (BP), the lower income groupings (BU and BV), and the 30-40 age group (CB) tend to use ground beef more frequently than the average respondent. Conversely, the \$60,000-80,000 income group (BX), the over \$80,000 group (BY), the over 60 age group (CE), and the better educated (CF) do not. The correlation for the CF variable is large and is extremely strong. Any merchandising effort should accommodate both of these extremes in most stores, with price specials and in-store displays designed to fit their customer. It will do little good, for example, to spend time and effort on the display of only ground beef if the typical consumer is high income and well educated.

Question: *If regular ground beef is offered at \$1.69 per pound, what prices would you feel are appropriate for: (1) Extra lean (30% fat); (2) Super lean (10% fat); and (3) Deluxe lean (5% fat).*

Appropriate Price for Super Lean
(20% Fat) if Regular Ground Beef
is \$1.69

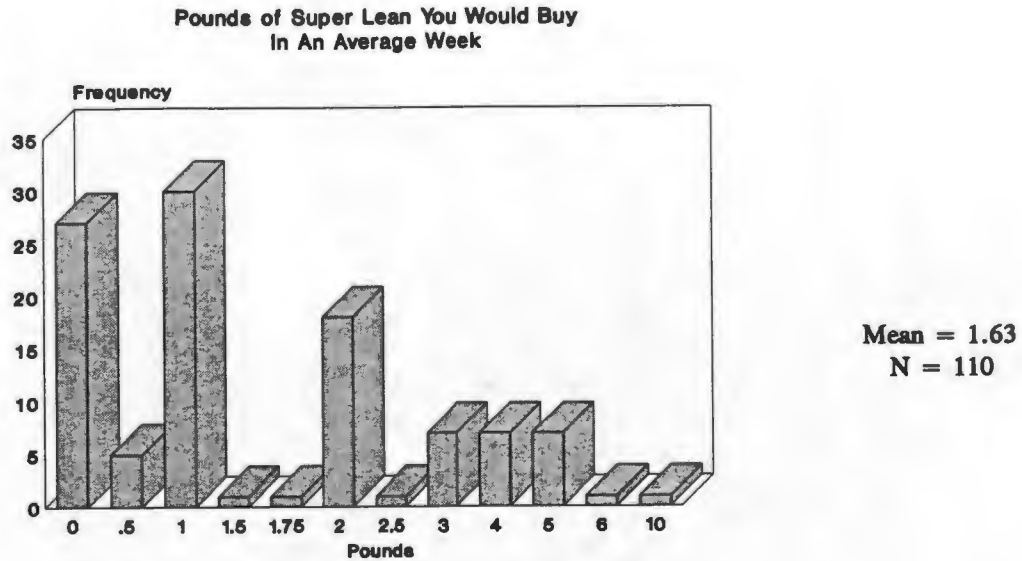


Mean = \$1.97
N = 170

<u>Socioeconomic Variable</u>	<u>Pearson Correlation</u>	<u>P-Level</u>	<u>N</u>
BP	-.1201	.1185	170
BY	.1427	.0633	20
CE	.1216	.1140	32

The histogram and the correlations are for super lean (BD) only. The "super lean" in the question approaches the new McLean offering, and it was selected for display. The mean for extra lean (BC) was \$1.82, for deluxe lean (BE) was \$2.13. The families with more adults (BP) tended to price low, while the high income group (BY) and the over 60 age group (CE) tended to price high. Throughout the survey, it is apparent that the older consumers, the CE group, are well informed on prices and nutrition. It is possible that this group knew the price of extra lean ground beef, ground chuck, etc. better than others. There is definitely evidence of willingness to pay for low-fat products, especially among the higher income and older consumers. This is important to merchandising and promotion strategies.

Question: *Estimate how many pounds of each you would use, given the prices you have entered, in an average week: (1) Regular (30% fat); (2) Extra lean (30% fat); (3) Super lean (10% fat); and (4) Deluxe lean (5% fat).*

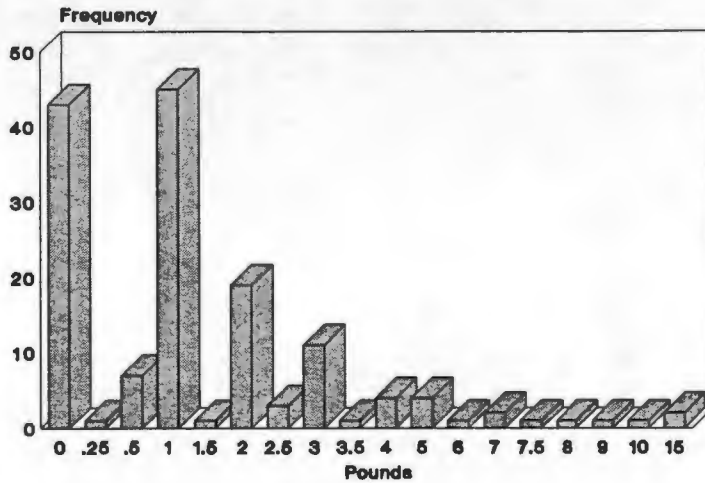


<u>Socioeconomic Variable</u>	<u>Pearson Correlation</u>	<u>P-Level</u>	<u>N</u>
BT	.2553	.0071	6
BX	-.1740	.0691	25

The histogram and correlations are for "super lean" (BH) only. The responses were quite variable, ranging from 0 to 10 pounds per week. The correlation analysis shows a statistically significant and positive correlation with the very low income group (BT) but there are only a few observations involved and the result should not be extended a great deal of credibility. The \$60,000-80,000 income group (BX) shows a negative correlation, indicating they tended toward smaller answers than the average respondent. Across all parts of the question, parts (1) through (4), the correlation analysis suggests: (1) the younger and lower income families and the larger families tend to use more ground beef; (2) the older and higher income families tend to prefer the lower fat products if they use ground beef at all; and (3) the better educated avoid the regular product (significant negative correlation) and then show a preference toward the 90 percent lean product (a significant positive correlation). These results provide general guidelines for merchandising strategies to match socioeconomic profiles of consumers, and reinforce the need to have a plan and a strategy that fits the socioeconomic profile of the shoppers for a particular area or for a particular supermarket.

Question: *If only the regular (30% fat) product is offered, how many pounds would you use at the \$1.69 price in an average week?*

Pounds of Regular You Would Use at the \$1.69 Price in an Average Week

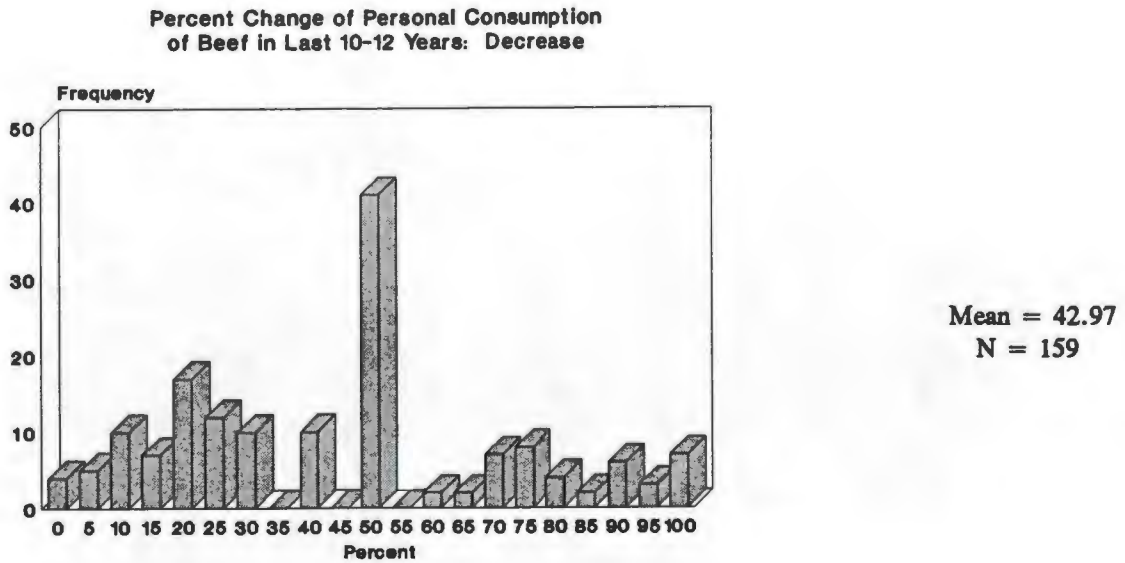


Mean = 1.59
N = 182

<u>Socioeconomic Variable</u>	<u>Pearson Correlation</u>	<u>P-Level</u>	<u>N</u>
BP	.2159	.0035	181
BQ	.4686	.0001	64
BR	.1677	.8369	155
BU	.1756	.0177	25
BV	.1038	.1630	48
BX	-.1061	.1540	42
BY	-.1405	.0053	23
CB	.1009	.1752	53
CE	-.1338	.0716	35
CF	-.2819	.0001	180

The results are totally consistent with expectations, and this reinforces the reliability of the entire survey. Larger families (BP), families with young children (BQ), families with more full-time workers (BR), lower income families (BU and BV) and the 30-40 age group (CB) all tend to use more regular ground beef. The higher income groups (BX and BY), the older group (CE) and the better educated (CF) all tend to use less. The very strong and very large correlation on BQ would be expected with teenagers in the family. Merchandising efforts should reflect these strongly divergent tendencies across the various socioeconomic groupings.

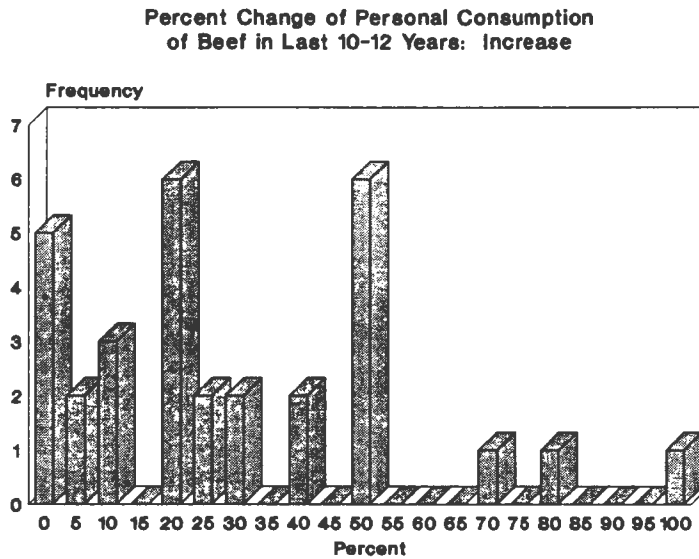
Question: *Across the past 10-12 years (or less if you are a young adult) how has your personal consumption of beef changed - Decreased.*



<u>Socioeconomic Variable</u>	<u>Pearson Correlation</u>	<u>P-Level</u>	<u>N</u>
CE	.1544	.0520	31

Across all consumer socioeconomic groupings, there has been a widespread and pervasive tendency for consumers to reduce beef consumption. The over 60 age group (CE) shows the only correlation that met the .20 cutoff level for the p-value. Older consumers have been even more pronounced in their tendency to buy and consumer less beef. The most important finding here is the mean reduction of 42.97 percent and the consistent response across all socioeconomic groupings. The histogram indicates many consumers and this would be most true for older consumers, have virtually eliminated beef from their diets.

Question: *Across the past 10-12 years (or less if you are a young adult) how has your personal consumption of beef changed - Increased.*

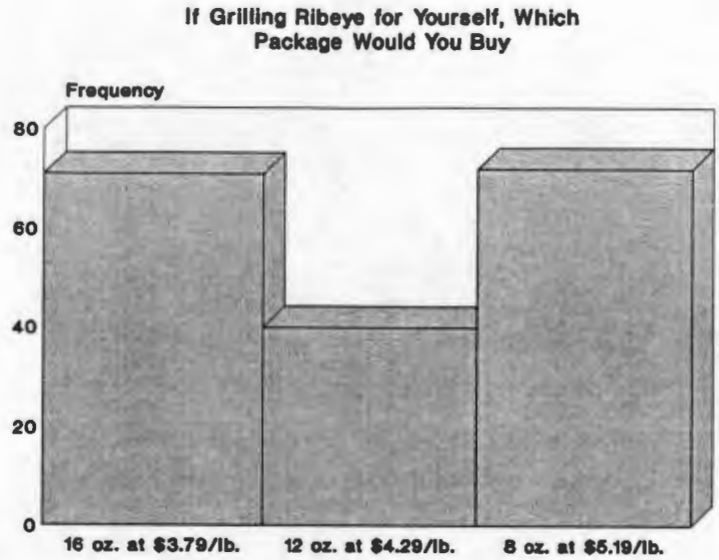


Mean = 25.73
N = 34

<u>Socioeconomic Variable</u>	<u>Pearson Correlation</u>	<u>P-Level</u>	<u>N</u>
BU	.3926	.0216	6
BX	-.2804	.1082	7
CB	-.2938	.0917	12
CC	.4207	.0132	6
CF	-.2817	.1122	33

Only 34 of the 199 respondents indicated beef consumption has increased. The average was 25.73 percent. The lower income families (BU) and the 40-50 age group (CC), among those who reported increases, tend to report larger increases. Conversely, the \$60,000-80,000 income group (BX), the 30-40 age group (CB), and the better educated (CF) reported smaller increases. There are only a small number of observations for some of these correlations and the results should be interpreted accordingly. The results are generally consistent with patterns of responses in earlier questions, and some of the correlations (such as for BU and CC) are highly significant.

Question: *If you were looking for a ribeye to grill for your own individual consumption, which of the following packages would you buy: (1) 16 ozs. @ \$3.79/pound (total cost of \$3.79); (2) 12 ozs. @ \$4.29/pound (total cost of \$3.22); or (3) 8 ozs. @ \$5.19/pound (total cost of \$2.60).*



N for (1) = 71
 N for (2) = 40
 N for (3) = 71

Correlation Analysis: 16 ozs. @ \$3.79/pound--total cost, \$3.79

<u>Socioeconomic Variable</u>	<u>Pearson Correlation</u>	<u>P-Level</u>	<u>N</u>
BQ	.1734	.1480	71
BU	.2241	.0015	25
BX	-.1844	.0091	46
CA	-.0991	.1633	19
CB	.1730	.0145	55
CD	-.1147	.1065	41
CF	-.1288	.0726	195

Correlation Analysis: 12 ozs. @ \$4.29/pound--total cost \$3.22

<u>Socioeconomic Variable</u>	<u>Pearson Correlation</u>	<u>P-Level</u>	<u>N</u>
BX	.1116	.1164	46

Correlation Analysis: 8 ozs. W \$5.19/pound--total cost \$2.60

<u>Socioeconomic Variable</u>	<u>Pearson Correlation</u>	<u>P-Level</u>	<u>N</u>
BQ	-.2392	.0444	71
BU	-.0924	.1943	25
BW	.1079	.1291	39
CB	-.2257	.0013	55
CD	.1107	.1195	24

The families with children (BQ), the \$25,000-40,000 income group (BU), and the 30-40 age group (CB) all show a tendency to opt for the 16-ounce package with the lower per pound cost. The correlations are large and especially significant for BU and CB. Conversely, the higher income (BX), the 20-30 age group (CA), older consumers (CD), and the better educated (CF) tended to avoid the 16-ounce package. The 20-30 age group (CA) also shows a negative correlation.

Forty respondents chose the 12-ounce package. Only the \$60,000-80,000 income group (BX) showed a significant correlation, and it was positive, indicating this group favors this package.

The families with small children (BQ), the \$25,000-40,000 income group (BU), and the 30-40 age group (CB) tend to avoid the more costly (per pound) 8-ounce package. These are the same groups that opted for the 16-ounce package, so the results are consistent. The \$40,000-60,000 group (BW) and the 50-60 age group (CD) tend to favor this 8-ounce package more than the average respondent.

Arguably, the most important part of the question is how many and which groups would choose the 8-ounce package. The price per pound is \$5.19 compared to \$3.79 in the 16-ounce package, but the total package cost is down to \$2.60 from \$3.79. Obviously, the question is also attempting to measure the importance of convenience and a willingness to cut and repackage the larger package.

The results give clear indication of the value of merchandising according to socioeconomic profiles and offering alternatives. Many who chose the 8-ounce package said in the "why" open-ended question in the survey that they had no interest in cutting, wrapping, and freezing the rest of the 16-ounce package. They were looking for convenience. Conversely, the lower income and larger families who opted for the 16-ounce package indicated they are willing to cut, wrap, and repackage the remainder. It is clear that stores who have a diverse clientele need to offer a diverse array of packages, sizes, and presentation alternatives. This is one of the most revealing findings in the entire survey and may have significant potential to meet managers and store managers as they reflect on their fresh beef offerings.

Section 3: Relationships Between the Socioeconomic Characteristics of Respondents

Understanding the socioeconomic profile of the respondents helps in interpreting the responses and in drawing useful conclusions from those responses. In Sections 1 and 2, the response patterns typically conform to a priori expectations. For example, there would be an expected positive relationship between education level and incomes. If the higher income consumers offer a particular type of response to a question, the more highly educated would not be expected to offer the opposite response. But that expectations assumes that there is in fact a positive correlation between education level and income level, and that would not necessarily have to be the case.

In this section, the correlations among the identified socioeconomic characteristics are examined. Consistent with the adopted approach, only the correlations with p-values less than .20 will be shown. The approach is to look at the various income groupings and to examine how the other socioeconomic measures are related to income level.

Families With Income Less Than \$15,000 (BT)

<u>Socioeconomic Variable</u>	<u>Pearson Correlation</u>	<u>P-Level</u>	<u>N</u>
BP	-.1478	.1250	7
BS	.4685	.0181	7
CE	.2596	.0062	7

The results are consistent with expectations. The income level is negatively correlated with the number of adults (BP) as would be expected. Lower income families tend to be larger families. The low income families tend to have more part-time wage earners (BS) and the low income levels tend to be positively correlated with the number in the over 60 age group (CE). There were only 7 responding families in this income level. The low income level and the younger families in the 20-30 age group (CA) were positively correlated as would be expected, but the correlation was not statistically significant at the .20 level. There is no observed relationship involving this income level that would tend to cast doubts on the findings in the study.

Families With Income of \$15,000-25,000 (BU)

<u>Socioeconomic Variable</u>	<u>Pearson Correlation</u>	<u>P-Level</u>	<u>N</u>
BR	-.2532	.0138	25
BS	.5103	.0091	21
CC	-.1605	.0939	23
CE	.1737	.0695	19

The \$15,000-25,000 income range is negatively correlated with the variable showing the number of full-time wage earners (BR) and the 40-50 age group (CC). Positive correlations are shown for the families with more part-time wage earners (BS) and the over 60 age group (CE). There was a negative correlation with the education variable (CF), but the p-value was .2071, barely missing the cutoff level of .20. In general, the correlations show families

in this \$15,000-25,000 income range tend to be younger. Older families, families with more full-time wage earners, and the better educated tend to be outside this income range. The results are completely consistent with a priori expectations.

Families With Income of \$25,000-40,000 (BV)

<u>Socioeconomic Variable</u>	<u>Pearson Correlation</u>	<u>P-Level</u>	<u>N</u>
BQ	.2624	.1018	37
CC	-.2021	.0342	41
CD	.1462	.1274	21
CF	-.3250	.0006	49

This income grouping tends to have more children less than 16 (BQ) and also shows a modest positive correlation with the 50-60 age group (CD). The 40-50 age group (CC) and the better educated (CF) tend not to be in this income range. The negative correlation for the education variable, CF, is large in absolute value and is very significant in a statistical context.

The 40-50 age group is the age cohort that includes those born in the post-World War II era. Generally, the group has been very progressive, tends to be well educated, and has often reached higher family income levels. The 50-60 age group is the traditional group, often blue collar employees, who have reached but not exceeded the \$25,000-40,000 income range. Examination of the entire correlation matrix shows the 40-50 age group to be positively correlated with higher incomes; the 50-60 age group to be negatively correlated. It is another example of the diverse groups with whom food retailers must cope. The key point here is that tailoring merchandising strategies to age of the customer and ignoring income levels could be a mistake.

Families With Income of \$40,000-60,000 (BW)

<u>Socioeconomic Variable</u>	<u>Pearson Correlation</u>	<u>P-Level</u>	<u>N</u>
BQ	-.3429	.0303	32
CC	.2464	.0095	31
CE	-.1363	.1555	34

Families with young children (BQ) do not tend to reach this income level. The 40-50 age group (CC) shows a strong tendency toward this income level, the development discussed above for this post-war group. The over 60 age group (CE) shows a modest negative correlation. There are no surprises in this income level given the prior discussion of the 40-50 age group. The 50-60 age group is negatively correlated with this income range, but the correlation did not reach the .20 level in terms of statistical significance.

Families With Income of \$60,000-80,000 (BX)

<u>Socioeconomic Variable</u>	<u>Pearson Correlation</u>	<u>P-Level</u>	<u>N</u>
CF	.2657	.0057	46

Only the education variable (CF) shows a significant correlation, and it is positive and relatively large. The 40-50 age group was positively correlated and the 50-60 age group was negatively correlated, but neither correlation reached the .20 cutoff level.

Families With Income Above \$80,000 (BY)

<u>Socioeconomic Variable</u>	<u>Pearson Correlation</u>	<u>P-Level</u>	<u>N</u>
CC	.1360	.1563	21
CD	.1595	.0959	24
CF	.2924	.0022	28

The 40-50 age group (CC) shows a modest positive correlation, and the 50-60 age group (CD) now shows a positive correlation as well. The education variable (CF) is positively correlated and very significant statistically speaking. The p-value is .0022.

Overall, the results tend to confirm the validity of the survey as being representative of Virginia households. There are a relatively large number of higher income families among the respondents, but that result is not surprising given the preponderance of population in the Northern Virginia suburbs and the population centers along the "crescent" from Washington, D.C. to the Norfolk area. Many families in these areas are professional, well educated (the average years of education is 14.95, where 12=high school diploma) and tend to earn high incomes. There is also a tendency toward multiple wage earners across the 199 respondents. There is nothing in this examination of the relationships between key socioeconomic indicators that would suggest the survey results presented in Sections 1 and 2 should be questioned in any way.

Section 4: Response Patterns and Correlations Between Responses Across City, Suburb, Rural and Farm Level Respondents

The 197 of the 199 respondents who indicated their place of residence were distributed as follows:

City	67
Suburbs	79
Rural	45
Farm	6

The responses were analyzed for distinctive patterns relating to the place of residence. Complete detail will not be offered. The approach is to look at the tendencies by place of residence for the survey questions that, in earlier sections, emerged as particularly important. Those selected questions will be repeated and the correlations to place of residence presented when the .20 cutoff level is met in the p-value measure.

The questions in the first section of the survey were rated on a 1 to 10 scale with 1=poor, 10=excellent. A positive correlation suggests a particular set of consumers tend to rate the question high, a negative correlation suggests a tendency toward a low rating.

Question: *How well prepared you are to know which cut of beef to buy for a particular way of preparing the meat.*

The question took on obvious relevancy in the earlier sections, but there were no correlations with p-values of .20 or smaller.

Question: *How confident you are that you will be satisfied with eating quality each time you buy beef in the form of a steak or roast.*

<u>Residence</u>	<u>Pearson Correlation</u>	<u>P-Level</u>	<u>N</u>
Suburb	-.1248	.0804	77
Rural	.0936	.1906	44

The respondents from suburban areas tended to be more negative toward beef quality, and the relationship is moderately strong with a p-value of .0804. The rural residents were more positive, but the p-value is high at .1906. The suburban residents tend to be in the age groups and show the income ranges that were more nearly identified with quality concerns in earlier questions. Efforts to effect more consistent quality control appear to be particularly important for these consumers.

Question: *How well you know what the London Broil cut of beef is and how to prepare it.*

<u>Residence</u>	<u>Pearson Correlation</u>	<u>P-Level</u>	<u>N</u>
Suburb	.1045	.1478	77
Farm	-.1576	.0289	6

The question was designed to reinforce earlier questions on knowledge of cuts and how to prepare them. The consumers in the suburbs show a modest tendency toward higher rankings. It was the small number of farm-level respondents that indicated they do not know what the London Broil cut is and how to prepare it. Once again, there is evidence of the confusion in the mind of the consumer.

Question: *How confident you are that the fresh beef you buy is meeting your requirements for a low-fat product.*

<u>Residence</u>	<u>Pearson Correlation</u>	<u>P-Level</u>	<u>N</u>
Rural	.1307	.0706	44

The correlations for all the groups other than the rural residents were negative, but not statistically significant. The rural residents tend to feel better about beef as a product that meets low-fat diet preferences.

Question: *How you rate fresh beef compared to pork in offering you low-fat and low cholesterol products.*

<u>Residence</u>	<u>Pearson Correlation</u>	<u>P-Level</u>	<u>N</u>
Farm	.1262	.0802	6

The farm dwellers among the respondents tended to rate beef relatively high compared to pork. Correlations with the other groups were generally negative, but were not statistically significant.

Question: *How you rate fresh beef compared to chicken in offering you low-fat and low cholesterol products.*

<u>Residence</u>	<u>Pearson Correlation</u>	<u>P-Level</u>	<u>N</u>
Rural	.1044	.1471	44
Farm	.1422	.0484	6

Both the rural and farm residents rated beef better compared to chicken. The correlations for both the suburbs and the city dwellers were negative, but the p-value was just above the .20 cutoff level in both cases.

Question: *How confident you are that the price you pay for fresh beef in your supermarket is as low as it can be in 1991.*

<u>Residence</u>	<u>Pearson Correlation</u>	<u>P-Level</u>	<u>N</u>
City	-.2085	.0035	64
Farm	.1410	.0505	6

The city residents showed a strong tendency to rate this question low, and the correlation was highly significant with a very small p-value of .0035. The farm residents show a very significant positive correlation. The size of the correlation (-.2085) and the high level of significance for the city residents are testimony to a problem. The group does not, in all likelihood, understand what is involved in beef production and they apparently feel someone in the system is earning excessive profits at their expense.

Question: *How comfortable you are that you know how to prepare the various cuts of beef so that you can shop for the best buy of cuts in the supermarket.*

<u>Residence</u>	<u>Pearson Correlation</u>	<u>P-Level</u>	<u>N</u>
Farm	-.0975	.1738	6

Interestingly, it is the farm residents that are not comfortable with the cuts so that they are able to shop for the best buys. There is only a small group of consumers in this category, however, and the results may not be indicative of farm residents in general.

The questions reported earlier in Section 2 of the survey use either a 0-100 percentage scale in answering, or respondents were asked to select one of several alternatives. The questions that appeared to be more important in that section will be repeated here and examined by place of residence.

Question: *How often you have been dissatisfied with the eating quality of beef when you eat at a nice restaurant.*

There were no significant correlations. In the related questions, residents of the suburbs tended to be positive in their eating experiences with chicken and pork. Farm residents tended to be negative toward chicken.

Question: *How often you have been dissatisfied with the eating quality of beef when you prepare a meal and eat at home.*

Directly relevant to beef, the responses to this question showed no significant correlations by place of residence. The farm group showed a negative correlation with a p-value of .2185, indicating they tend to see fewer problems with quality in at-home consumption, but the .2185 missed the .20 cutoff level.

Question: *How often you see significant price changes from week to week in your supermarket for beef.*

<u>Residence</u>	<u>Pearson Correlation</u>	<u>P-Level</u>	<u>N</u>
Suburb	-.1178	.1270	74

Residents of the suburbs tended to be less concerned about week to week changes in prices of beef in the supermarket. This finding is consistent with those of earlier sections that show the higher income and better educated consumers tend to be less bothered by price changes.

Question: *Reasons that your beef consumption per person decreased: Price of beef relative to other meats.*

<u>Residence</u>	<u>Pearson Correlation</u>	<u>P-Level</u>	<u>N</u>
Suburb	.1873	.0541	54
City	-.1375	.1500	48

This question was for a rank=1 for the most important reason for decreased beef consumption. For the city dweller, comparative prices were important. For the resident of the suburbs, price was less important than for the average respondent, and the relationship is highly significant with a p-value of .0541. This finding continues a pattern that shows it has not been just high relative prices that have driven the better educated and higher income consumer (the suburban families, in general) away from beef.

Question: *Reasons that your beef consumption per person decreased: Health-related concerns (fat level, cholesterol).*

<u>Residence</u>	<u>Pearson Correlation</u>	<u>P-Level</u>	<u>N</u>
Suburb	-.1109	.2019	54
Rural	.2196	.0108	34

The .2019 p-value for the "suburb" group is slightly above the .20 cutoff point, but it is presented for use in conjunction with the previous question. Taken together, the two questions indicate that it has tended to be health-related reasons--not just price--that has reduced the suburban consumer's beef purchases. This reinforces important findings in earlier sections and argues for efforts to more effectively combat the "health issues" in beef merchandising programs. Note that the rural resident is not concerned about the health-related issues.

Question: *As you shop for beef in your supermarket, rate the importance of cost per pound, cost for the entire package, and cost per serving.*

There was only 1 statistically significant correlation. Farm dwellers tended to be concerned about the total cost of the package. In earlier sections, this question revealed significant possibilities in tailoring merchandising efforts to income groups, education levels, etc. But there were no dominant patterns by place of residence.

Question: *Think about all the food products you buy in the supermarket, including meats. Of those that have information on nutrient content (calories, cholesterol, saturated fats, etc.), what percent of the time do you look at that information as you think about buying that product?*

There were no patterns in response to this potentially important question by place of residence. The results were the same for the related question about how many would not buy the new beef barbecue dish if it had no nutrient information. There were significant findings from these questions in earlier sections by income levels, etc. but not by place of residence.

Question: *What percent of your at-home meals involve ground beef?*

<u>Residence</u>	<u>Pearson Correlation</u>	<u>P-Level</u>	<u>N</u>
Suburb	-.1287	.0782	73
Rural	.1915	.0085	41

The suburban resident tends not to use ground beef, the rural family does. With the suburban family tending to be higher income and better educated, the negative correlation is consistent with earlier findings. Stressing ground beef in merchandising programs to the suburban consumer may not be productive.

Question: *If regular ground beef is offered at \$1.69 per pound, what prices would you feel are appropriate for: Extra lean (20% fat).*

<u>Residence</u>	<u>Pearson Correlation</u>	<u>P-Level</u>	<u>N</u>
Suburb	.1059	.1665	67

The suburban resident shows a modest positive tendency toward high prices for the extra lean product. The positive correlation here is consistent with the negative correlation in the previous question dealing with the use of ground beef. If this group uses ground beef at all, it would tend to be one of the lower fat products. In this set of questions dealing with ground beef of different fat levels, the answers of the suburban and city residents tended to be positively correlated, indication of a preference toward low-fat products. The rural and farm residents tended to be negatively correlated, suggesting they responded in terms of lower than average prices for the low-fat products. In the related questions asking how many pounds they would use in a normal week, the suburban and city residents tended to answer below average for all the product possibilities. The rural and farm respondents tended to show positive correlations indicating a greater tendency to use the products.

Question: *If only the regular (30% fat) product is offered, how many pounds would you use at the \$1.69 price in an average week?*

<u>Residence</u>	<u>Pearson Correlation</u>	<u>P-Level</u>	<u>N</u>
Suburb	-.1078	.1472	69

The response pattern here confirms the discussion in the previous two questions. If only the "regular" ground beef is offered, the suburban consumer will tend to use less than the average weekly quantity.

Question: *If you were looking for a ribeye to grill for your own individual consumption, which of the following packages would you buy: (1) 16 ozs. @ \$3.79/pound (total cost of \$3.79); (2) 12 ozs. @ \$4.29/pound (total cost of \$3.22); or (3) 8 ozs. @ \$5.19/pound (total cost of \$2.60).*

<u>Residence</u>	<u>Pearson Correlation</u>	<u>P-Level</u>	<u>N</u>
Suburb	-.1111	.1180	56
Rural	.1239	.0810	34

The correlations shown are for the 16 oz., \$3.79 per pound offering only. The suburban resident is less concerned about cost per pound. The same group showed a positive but not significant at the .20 level correlation with the third alternative, the 8-ounce package (correlations not shown here). The rural families are interested in costs per pound. The pattern in the responses and the comments related to the question confirm that the families with more income and more education, the suburban families in general, are willing to pay for convenience. There were specific comments that said the 16-ounce package was too much, and they had no interest in rewrapping and saving the portion that would be left. There is an important message here for anyone merchandising fresh beef. It is important to present an array of offerings if there is a diverse clientele in terms of socioeconomic profile of customers. This will be especially true in the stores located in the suburbs.

Section 5: Merchandising Strategies

Analysis of the survey results has provided insights into consumer purchasing behavior of beef. Those results will be broadly useful at the Virginia and national levels in formulating merchandising and promotion strategies. Possible strategies to be developed here will focus on what can be done with in-store merchandising. The objective is to provide meat managers and store managers with guidelines in their efforts to enhance volume in their beef movements, ensure customer satisfaction, and increase the profitability of the meat department. The strategies are presented in their perceived order of importance given the survey results and analysis reported in earlier sections.

Strategy 1: Eliminate the confusion in the minds of the younger families on what cuts of beef to buy given an intended end use.

It is clear that the younger families do not know what cuts of beef to buy, do not understand what a label such as "London Broil" means, and do not know how to buy to protect against an unsatisfactory experience. The presentation and merchandising of beef should make a strong effort to guard against the disaster that occurs when the unsuspecting customer buys the very attractive cut of round steak to grill that evening. There are a number of possibilities.

- (a) Apply stick-on labels to the individual cuts of beef that indicate their best use(s) and how to best prepare for a satisfying experience.
- (b) Provide in-store displays of brochures, booklets, etc. that indicate the use and preparation for the labels the store employs in the meat section. (It is important to remember that "London Broil" is top round steak in some areas, flank steak in other areas, and still something else in some other areas.)
- (c) Segment the display counter such that cuts appropriate for grilling are in one clearly labeled section of the display, cuts for stir fry in another clearly labeled section, etc. Cooking tips could be provided on the display makers or offered on a "pull off" basis.
- (d) Put the meat manager or some other appropriately trained person in front of the meat counter periodically and regularly to interact with consumers, talk about cuts of beef, how to prepare, etc.

Strategy 2: Reduce the concerns about fat levels and cholesterol in beef.

A closely trimmed cut of beef can offer a very low-fat level and low cholesterol, but consumers clearly do not know this fact. Displays featuring supportable claims about fat levels, cholesterol, and nutrients could help in-store merchandising efforts. Tastefully done comparisons with chicken could help since the survey results clearly show consumers do not perceive beef as being competitive with chicken in terms of offering low-fat and low-cholesterol product lines.

This strategy will be critically important in the stores in suburbs where the clientele is moderate to high income, relatively young, and well educated. A number of questions

in the survey reinforce the conclusion that it is perceptions and concerns about health, not the relatively high beef prices, that have driven this type of customer to other products. This is also the customer with money in the pocket that is willing to spend for the attractively packaged product that is convenient and meets demands for low-fat and low-cholesterol alternatives.

Strategy 3: Segment the consumer market and offer product and packaging alternatives designed to meet the needs and preferences of the different and segmented clientele.

An attractive ground beef display is a must for the lower income families and the families with children under 16. But the older customer, the higher income customer, and the better educated customer will not be interested in the regular ground beef product. They appear to know it is 30 percent fat, and will buy the leaner product--and pay a higher price for it--if they buy ground beef at all.

Portion size and cost per serving is important to the higher income consumer and some of the older and better educated consumers. The survey results clearly show a significant willingness to pay sharply higher per pound prices if the portion size is correct and the need to cut, rewrap, and freeze the remaining portion of a larger cut can be avoided. There are, it appears, significant opportunities in value-added, further processing via packaging and control of portion size.

Strategy 4: Enhance the perception of value in the beef product to defuse the concerns about high prices.

Prices are not intrinsically "high". The price of a beef cut is seen as high if the perception of value in the product is relatively low. Those perceptions of value can be enhanced by close trimming, removal of seam fat, on-site help in picking the correct cut and preparation tips, packaging and portion control, providing nutrient information and in other ways that eliminate or reduce the concerns and confusion in the minds of the consumers.

If the customer can pick up a cut of beef and associate that cut with a completely predictable and very positive usage experience, there will be less concern over price. If there is a degree of uncertainty about the projected usage experience, that uncertainty gets reflected in the form of a discount on the price they are willing to pay. The "value" side of the purchase decision equation can balance the "price" side of that same purchase decision.

APPENDIX A

The Consumer Survey

Section A. Use a scale of 1=poor and 10=excellent and answer each question with a rating from 1 to 10.

_____ Your level of satisfaction with the way fresh beef is packaged, presented, and displayed in your supermarket.

_____ How well prepared you are to know which cut of beef to buy for a particular way of preparing the meat.

_____ How confident you are that you will be satisfied with eating quality each time you buy beef in the form of a steak or roast.

_____ How well you know what the London Broil cut of beef is and how to prepare it.

_____ How confident you are that the fresh beef you buy is meeting your requirements for a low-fat product.

_____ How you rate fresh beef compared to pork in offering you low-fat and low-cholesterol products. (Assume a rating of 5 means beef and pork are equal.)

_____ How you rate fresh beef compared to chicken in offering you low-fat and low-cholesterol products. (Assume a rating of 5 means beef and chicken are equal.)

_____ How you rate fresh beef compared to pork in convenience and time needed to prepare a meal. (Assume a rating of 5 means beef and pork are equal.)

_____ How you rate fresh beef compared to chicken in convenience and time needed to prepare a meal. (Assume a rating of 5 means beef and chicken are equal.)

_____ How well the beef industry has done in offering you value for the dollars you spend on fresh beef.

_____ How well you feel the beef sector is positioned to offer the type of product at a price that will fit the needs of the modern consumer as we move toward 1992.

_____ How confident you are that the price you pay for fresh beef in your supermarket is as low as it can be in 1991.

How comfortable you are in serving the following meats when you have company and want your meal to be well received and acceptable to everyone.

- _____ Beef
- _____ Pork
- _____ Chicken

_____ How comfortable you are that you know how to prepare the various cuts of beef so that you can shop for the best buy of cuts in the supermarket.

_____ How confident you are that you know the nutrient information for ground beef, steaks, roasts, etc. and can shop for the cuts of beef that fit your needs.

Section B. Answer the following in terms of percentages, using any number from 0 to 100 percent.

How often you have been dissatisfied with the eating quality of the following when you eat at a nice restaurant.

_____ chicken _____ beef _____ pork

How often you have been dissatisfied with eating quality at fast food operations for

_____ chicken _____ beef _____ pork

How often you have been dissatisfied with eating quality when you prepare a meal and eat at home for

_____ chicken _____ beef _____ pork

How often you have experienced what you feel are bothersome differences in eating quality as you think about

_____ chicken _____ beef _____ pork

How often you see significant price changes, changes big enough to bother you, from week to week in your supermarket for

_____ chicken _____ beef _____ pork

In the past 5 years, what has happened to the amount of beef consumed in your household per person? Answer in terms of (+) or (-) and percentage of increases or decreases.

_____ chicken _____ beef _____ pork

If your answer to the previous question for beef was "decreased," rank (with 1 = most important) all of the following reasons that are applicable. (Go to next question if you answered "increased".)

- _____ Price of beef relative to other meats
 - _____ Beef is not convenient to use (not microwaveable, for example)
 - _____ Health-related concerns (fat level, cholesterol)
 - _____ Inconsistent quality of beef
 - _____ Switched to other foods for reasons other than price
 - _____ Other - Please explain _____
-

As you shop for beef in your supermarket, use percentages to rate the importance of

- _____ Cost per pound
- _____ Cost for the entire package
- _____ Cost per serving

Think about all the food products you buy in the supermarket, including meats. Of those that have information on nutrient content (calories, cholesterol, saturated fats, etc.), what percent of the time do you look at that information as you think about buying that product?

_____ percent

Assume a new beef barbecue dish shows up in your store that can be prepared in the microwave in 5 minutes. It is priced competitively with other microwaveable dishes. You are interested and look it over, but notice the package has no nutrient labels so you do not know calories, fat level, etc. What percent of the potential customers who look over the package do you think would not buy it because there is no nutrient information?

_____ percent

Enter the percent of your household meals that are eaten (make them total 100 percent).

_____ At home, food prepared at home
_____ At home, take-out food from deli, fast food, etc.
_____ Fast food at fast-food establishment
_____ Nice, sit-down restaurant
_____ On the go (in car, etc.)
_____ Other - Please explain _____

100% _____

Section C. Answer each question briefly.

What percent of your at-home meals involve ground beef? _____ %

If regular ground beef is offered at \$1.69 per pound, put in the prices you feel would be appropriate for the other products if they were also being offered by your supermarket.

_____ \$1.69 Regular (30% fat)
_____ Extra lean (20% fat)
_____ Super lean (10% fat)
_____ Deluxe lean (5% fat)

Estimate how many pounds of each you would use, given the prices you have entered, in an average week.

_____ Lbs. regular
_____ Lbs. extra lean
_____ Lbs. super lean
_____ Lbs. deluxe lean

If only the regular (30% fat) product is offered, how many pounds would you use at the \$1.69 price in an average week?

_____ Lbs.

Across the past 10-12 years (or less if you are a young adult) how has your personal consumption of beef changed?

Decreased _____ % Increased _____ %

What one factor has been most important in causing you to change your buying habits where beef is concerned?

What one change would be required for you to buy and eat more beef again?

If you said "lower price" in answering the previous question, what one change would cause you to buy and eat more beef if prices do not come down compared to other meats?

If you were looking for a ribeye to grill for your own individual consumption (the family is away or you live alone) which of the following packages would you buy at the supermarket?

16 ozs. @ \$3.79 per pound (total cost of \$3.79)

12 ozs. @ \$4.29 per pound (total cost of \$3.22)

8 ozs. @ \$5.19 per pound (total cost of \$2.60)

Why? _____

In your own words, what is right and what is wrong about the fresh beef you buy and tell us 2 or 3 (or more) things you would like to see changed.

Number in your household Adults Children (16 years or less)

Number of wage earners Fulltime Parttime

Gross income per year for the household Less than \$15,000 \$40,000-\$60,000
 \$15,000-\$25,000 \$60,000-\$80,000
 \$25,000-\$40,000 More than \$80,000

Your age: Under 20 30-40 50-60
 20-30 40-50 Over 60

Education level of person completing this survey
(12=high school diploma, 16=college degree, etc.) _____

You live in: City Suburbs
 Rural community Farm

You shop mostly at which supermarket? _____

THANK YOU!



