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**HOUSEHOLD LEVEL LAMB  
CONSUMPTION PATTERNS**

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*TAMRC Commodity Market Research  
Report No. CM-02-05  
September 2005*

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## HOUSEHOLD LEVEL LAMB CONSUMPTION PATTERNS

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Texas Agribusiness Market Research Center (TAMRC) Commodity Market Research Report No. CM-02-05, September 2005 by Dr. Gary W. Williams and Dr. Oral Capps, Jr.

### ABSTRACT

This report is an analysis of the ACNielsen HomeScan™ data for lamb purchases stratified or sliced by several demographic characteristics of the purchasing households, including: (1) household size; (2) household income; (3) age of the household food preparer; (4) employment status of the household food preparer; (5) education level of the household food preparer; (6) household race; and (7) region where the household is located. The results provide data on market penetration (the percentage of households who buy lamb) viewed from a number of demographic perspectives and provide guidance for allocation of lamb advertising dollars.

### ACKNOWLEDGMENTS

The research reported here was conducted under contract with the American Lamb Board (ALB). The data analyzed in this study were provided through a cooperative agreement with the Economic Research Service, U.S. Department of Agriculture. The conclusions reached, and any views expressed, however, do not necessarily reflect those of the ALB, the U.S. Department of Agriculture, or Texas A&M University.

*The Texas Agricultural Market Research Center (TAMRC) has been providing timely, unique, and professional research on a wide range of issues relating to agricultural markets and commodities of importance to Texas and the nation for over thirty-five years. TAMRC is a market research service of the Texas Agricultural Experiment Station and the Texas Agricultural Extension Service. The main TAMRC objective is to conduct research leading to expanded and more efficient markets for Texas and U.S. agricultural products. Major TAMRC research divisions include International Market Research, Consumer and Product Market Research, Commodity Market Research, Information Systems Research, and Contemporary Market Issues Research.*

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### EXECUTIVE SUMMARY

To successfully manage a strategically effective promotion and advertising program, any commodity promotion firm or group like the American Lamb Board must understand its consumer base well. Recently, through a cooperative agreement with the Economic Research Service, U.S. Department of Agriculture, we have obtained access to a unique set of data for the years of 1998 through 2003 with precisely the type of information on consumer lamb purchasing behavior needed to support lamb promotion and advertising decisions. The data are collected by A.C. Nielsen through its HomeScan™ Consumer Panel, a multi-outlet panel that captures all consumer package goods purchase information, as well as non-UPC coded random weight perishable products like meat, on a daily basis for 7,000 to 8,000 households. Using state-of-the-art, in-home bar code scanners, participating households record daily transactions made at retail grocery stores, mass merchandiser outlets such as warehouse clubs, convenience stores, drug stores, and computer stores and by mail order or over the Internet. Purchasing households are selected for the HomeScan™ Consumer Panel to be representative of all consumers over a wide range of demographic groupings.

Because the HomeScan™ Panel is demographically balanced to represent the household population of the mainland U.S., the panel data can be considered to be representative of nationwide patterns of food consumption. Because the demographic information of the purchasing households is recorded along with their purchases, the purchase information can be stratified (sliced up) and viewed by the demographic characteristics of consumers. Data on purchases of lamb for away-from-home food consumption at restaurants or elsewhere are not collected through the HomeScan™ Panels.

In this report, we present and summarize the ACNielsen HomeScan™ data for lamb purchases stratified or sliced by several demographic characteristics of the purchasing households, including: (1) household size (number in the household), (2) household income, (3) age of the person primarily responsible for food preparation and meal planning, (4) employment status of the person primarily responsible for food preparation and meal planning, (5) education level of the person primarily responsible for food preparation and meal planning, (6) race, and (7) region where the household is located. The salient conclusions flowing from an analysis of this unique dataset for the six years of 1998 through 2003 are the following:

#### *Lamb Market Penetration*

- An average of about 9.7% of all households purchased lamb each year.
- Market penetration jumped from an average of 9.2% in the three years prior to the implementation of the lamb checkoff program to an average of about 10.5% in the two years of the dataset precisely when the American Lamb Board began promoting lamb demand with checkoff dollars.

- Market penetration is highest among households with the following characteristics: (1) smaller household sizes; (2) higher income levels; (3) more mature (older) food preparers; (4) more educated food preparers; (5) unemployed (outside the home) food preparers; (6) household race classified as “black”; and (7) located in the East region of the United States.

#### *Household Lamb Purchases*

- Lamb purchases per household tend to be higher for households with the following characteristics: (1) smaller household size; (2) more mature (older) the food preparer; (3) unemployed (outside the home) food preparer; (4) a food preparer with some college education or a high school education; (5) household race classified as “black”; and (7) located in the East or West regions.
- Household income level is not strictly correlated with the quantity of lamb purchased per household.

#### *Prices Paid by Households Purchasing Lamb*

- The price per pound paid for lamb tends to be higher among households with the following characteristics: (1) large household size; (2) higher income; (3) lower education level; (4) age of the food preparer between 25 and 65; (5) full-time employed food preparer; (6) household race classified as “white”; and (6) located in the South or West regions.

#### *Lamb Advertising*

- Primary targets of lamb advertising include the following:
  - smaller households, particularly those with 2 members in the household;
  - higher income households;
  - households with more mature food preparers;
  - households with unemployed food preparers like full-time homemakers;
  - households with food preparers with at least some college education;
  - black households for lower price cuts;
  - white households for higher price cuts; and
  - households located in the East and West regions.
- Advertising effectively conveying that lamb is easy and quick to prepare would likely increase the market penetration among households with full-time employed food preparers.
- Advertising focusing on away-from-home lamb consumption may be effective in boosting the lamb consumption of households with full-time employed food preparers.

Three other areas of research will be pursued using this dataset in the next phase of this project:

- An examination of the relationship between consumer lamb purchasing behavior and various *combinations* of demographic characteristics such as by income for each race or by race for each income level. Once ALB has examined the results from this report, we can define what combinations of the various demographic characteristics of most interest;
- The same information presented in this report for lamb cuts: (1) blade chops; (2) loin chops; (3) arm chops; (4) rib chops; (5) total lamb chops; (6) center roasts; (7) ground lamb; (8) lamb for stew; (9) leg of lamb; and (10) other lamb; and
- A statistical analysis of the data to identify the key demographic drivers of lamb purchasing behavior

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To successfully manage a strategically effective promotion and advertising program, any firm or group must understand its consumer base well. Because advertising is always an extremely expensive undertaking, a great deal of money can be spent on designing and running advertising campaigns that ultimately have little impact on sales. To be effective, advertising campaigns must be based on a solid understanding of the demographics and purchasing behavior of consumers. Unfortunately, while data on national consumption and prices of products like lamb are publicly available from the U.S. Department of Agriculture and other government agencies and for a fee from some commercial firms, little information is available on the demographic characteristics of consumers (race, income level, geographic location, household size, education levels, etc.) that drive consumer-purchasing behavior. Unfortunately, the cost of the massive effort that would be required to gather national and demographically balanced data on consumer buying behavior and characteristics is prohibitive for most firms. As a consequence, many commodity groups that fund advertising programs rely on advertising firms and other limited data from diverse sources to inform their decisions about how and where to spend their advertising dollars.

In recent years, a few commercial firms have been gathering data on consumer purchasing behavior and characteristics across a broad range of food products. The most comprehensive of these databases is maintained by A.C. Nielsen through its HomeScan<sup>TM</sup> Consumer Panels, a multi-outlet panel that captures all consumer package goods purchase information, as well as non-UPC coded random weight perishable products like meat. Every year, using state-of-the-art, in-home bar code scanners, participating households record transactions made at retail grocery stores, mass merchandiser outlets such as warehouse clubs, convenience stores, drug stores, and computer stores and by mail order or over the Internet. Because the data is collected based on purchases by consumers for at-home consumption, the database does not include consumer purchasing information related to away-from-home food consumption at restaurants or elsewhere.

Purchasing households are selected for the HomeScan<sup>TM</sup> Consumer Panel to be representative of all consumers over a wide range of demographic groupings. Because the HomeScan<sup>TM</sup> Panel is demographically balanced to represent the household population of the mainland U.S., the panel data can be considered to be representative of nationwide patterns of food consumption. For lamb, the consumer panel data available include household purchases (quantities and values) and prices of various lamb cuts: (1) ground lamb; (2) lamb chops (arm, rib, blade, and loin); (3) center roasts; (4) leg of lamb; (5) lamb for stew; and (6) other lamb. Because the demographic information of the purchasing households is recorded along with their purchases, the purchase information can be stratified (sliced up) and viewed by the demographic characteristics of consumers.

Unfortunately, the ACNielsen HomeScan<sup>TM</sup> data are extremely expensive for commercial purchase making them largely unavailable to many commodity groups that fund advertising

programs. Recently, however, the Economic Research Service, U.S. Department of Agriculture, obtained the data for 1998 through 2003. Through a recent cooperative agreement with USDA, we have gained access to that data. The database is massive and requires extensive statistical work to extract the necessary data for any particular product. The database includes the daily food purchases by 7,000 to 8,000 households over a broad range of products. Thus, while the data on lamb cuts are available, we only extracted the data relating to household consumption patterns for lamb in the aggregate to begin with. Then later, if the aggregate data appear to be useful, the same information can be developed for each lamb cut.

In this report, we present and summarize the ACNielsen HomeScan™ data for lamb purchases stratified or sliced by several demographic characteristics of the purchasing households, including: (1) household size (number in the household), (2) household income, (3) age of the person primarily responsible for food preparation and meal planning, (4) employment status of the person primarily responsible for food preparation and meal planning, (5) education level of the person primarily responsible for food preparation and meal planning, (6) race, and (7) region where the household is located. The information provided here should prove highly useful in determining market penetration (the percentage of households who buy lamb) viewed from a number of demographic perspectives. The data for large number of combinations of these characteristics could be extracted from the data. Because of the time required to extract such data and report them for all possible combinations of characteristics by year, the initial effort here is to provide ALB with the data on aggregate lamb purchases by each of the listed characteristics and allow the ALB to determine which combinations of characteristics would be most helpful for developing advertising campaigns and allocating advertising dollars.

### **Lamb Purchases and Price Paid by Number in the Household**

Tables 1A through 1G summarize the panel data for lamb purchases and the price paid by those households for lamb. Table 1A shows that the number of households participating on the panel varied slightly from year to year but ranged roughly from 7,100 to 8,800 households each year. Table 1B shows the market penetration for lamb by household size. Of the total number of households on the panel in each year, between 9% and 11% actually purchased lamb each year (Table 1B). In general, a larger percentage of the smaller households purchased lamb consistently each year than larger households. If lamb is considered to be a high cost item, then larger families would tend to purchase lower cost foods.

Note that Table 1B also shows that the number of households purchasing lamb jumped from an average of about 9.2% in 1998-2001 to about 10.5% in 2002 and 2003, the exact years when the American Lamb Board began operating and promoting lamb purchases. This pattern is consistent across all the panel data results.

Table 1C shows that the quantity of lamb purchased by smaller households is also greater than the lamb purchased by larger households. In fact, the purchases of lamb by 2-member households over all years were more than twice that of single member households, more than 3 times that of 3-member households, and 7 times that of households with 5 or more members.

These results suggest that a primary target of lamb advertising should be smaller households, particularly those with 2 members in the household.

Table 1D provides the per household purchases of lamb. The interesting result from this table is that while more of the smaller households purchase lamb as shown in the previous table, the amount purchased by each of those households is not much different than the purchases by each of the households in the larger household groups. Note that the per household purchases of lamb jumped from around 2.6 lbs/household to 2.9 lbs/household in 1998 through 2001 to 3.8 lbs/household in 2002 and 3.6 lbs/household in 2003.

The expenditures by the households on the panels followed the same general pattern as that of the lamb quantities purchased by households shown earlier (Table 1E). Note, again, the jump in the expenditures in 2002 and 2003. On a per household basis, Table 1F shows that expenditures on lamb by the smaller households was smaller in many years than that of the larger household sizes. In other words, while fewer of the larger households purchased lamb, the larger households purchasing lamb tended to spend more per household than the smaller households. Note that expenditures on lamb averaged between \$14-\$15 per household per year between 1998 and 2001 and about \$20 per household in 2002 and 2003.

Finally, Table 1G shows that the average price paid for lamb by the participating households increased from \$5.88/lb in 1998 to \$6.59/lb in 2003. The table also shows that the larger the household, the higher the average price paid for lamb. Over the six years of the panel data, single member household paid the lowest average price for lamb (\$4.72) and the largest households (5 members or more) paid the highest retail price for the lamb they purchased. This result may be due to the type of cuts being purchased by each household size. That data will be gleaned from the panel data as part of the next project.

### **Lamb Purchases and Price Paid by Household Income Level**

Households with annual incomes between \$20,000 and \$60,000 represented the largest portion of the households participating in the panel (about 55% of all households participating in the panel) (Table 2A). Table 2B indicates the market penetration by income level and shows that the higher the income the greater the percentage of households that purchase lamb. Over the 5 years of the panel, while about 7% of the lowest income households purchased lamb, more than 14% of the households with income of over \$100,000 purchase lamb. The implication is that higher income households represent another primary target for lamb advertising.

Table 2C indicates that the households with between \$20,000 and \$60,000 purchased more lamb than households in other income categories probably because there are more households of those income sizes on the panel. Table 2D, however, shows, that lamb purchases per household each year are not highly affected by the level of income. Thus, while the lower income households purchased more total lamb, on a per household basis the purchases differed little among household income levels.

Table 2E indicates that, like quantity purchases, the households with incomes of between \$20,000 and \$60,000 spent more lamb than households in other income categories again probably because there are more households of those income sizes on the panel. Table 2F shows that unlike the quantity purchased per household, the expenditures on lamb per household tends to increase as income increases. Thus, while households of all income levels purchased about the same quantity of lamb per household, the higher income households tend to buy higher cost cuts and, therefore, spend more per household on lamb than lower income households. This conclusion is supported by the results for prices paid by income level in Table 2G. The average price paid for lamb rises with higher levels of income from an average of \$4.24/lb paid by the lowest income households to an average of \$8.13/lb paid by the highest income households.

### **Lamb Purchases and Price Paid by Age of the Person in the Household Primarily Responsible for Food Preparation/Meal Planning**

Table 3A indicates that more households with the person responsible for food preparation/meal planning (the food preparer) between the ages of 25 and 65 participated in the panel than those with a food preparer less than 25 years old or older than 65 years. Nevertheless, Table 3B indicates that lamb market penetration was greater the older the food preparer in the household. Nearly 16% of households with a food preparer older than 65 purchased lamb on average over the six years of the panel data while only 8% of the households with a 40-49 year old food preparer purchased lamb. At the same time, only 5.5% and 3% of the households with food preparers of 25-39 years of age and less than 25, respectively, purchased lamb.

The largest volume of lamb was purchased in each year by households with a food preparer of 50-65 years of age (Table 3D). Interestingly, while the households with the youngest food preparers purchased the least amount of total lamb, those households tended to purchase the largest amount on a per household basis. The amount purchased per household tended to increase slightly as the age of the food preparer increased from 2.5 lbs/household by households with food preparers of 25-39 years of age to 3.2 lbs/household by households with food preparers more than 65 years old. A possible implication is that households with more mature food preparers represent another potential target for advertising.

The patterns of expenditures on lamb are similar to those for lamb quantities purchased (Table 3E). However, note that the amount spent per household on lamb is not much different between households with food preparers older than 40 (Table 3F). Households with younger food preparers spent considerably less per household (\$12-14) per year on average over the six years of the panel) than households with more mature food preparers (\$16-17 per year on average over the six years).

Interestingly, the price paid for lamb is the highest for households with food preparers between 25 and 39 years of age (\$6.43/lb). The households with the oldest food preparers paid considerably less on average (\$5.68/lb) likely due to the type of cuts being purchased by the different household food preparers.

### **Lamb Purchases and Price Paid by Employment Status of the Person in the Household Primarily Responsible for Food Preparation/Meal Planning**

In about half of the households participating in the panel, the person primarily responsible for food preparation/meal planning (the food preparer) was employed full-time (Table 4A). In about 1/3 of the participating households, however, the food preparer was unemployed outside the home, such as an unemployed homemaker but also includes single heads of households that were out of work. As shown in Table 4B, market penetration is greater among households with an unemployed food preparer than households with either part-time or fully employed food preparers. Market penetration is lowest for households with full-time employed food preparers. The suggestion is that unemployed food preparers like full-time homemakers have more time for food preparation and, thus, are more likely to purchase a product like lamb to prepare for a family meal at home. In contrast, full-time employed food preparers have less time for food preparation and, thus, select lamb to prepare for a meal at home less often. The household market penetration for households with a full-time employed food preparer may also be relatively low because those households may consume relatively more meals away from home than households in the other employment groups. For advertising purposes, these results suggest three implications. First, a current primary target of advertising is unemployed food preparers like full-time homemakers. Second, advertising that effectively conveys that lamb is easy and quick to prepare for a meal would likely be successful in increasing the market penetration among households with full-time employed food preparers. Third, advertising focusing on away-from-home lamb consumption may be effective in boosting the lamb consumption of households with a full-time employed food preparer.

Tables 4C and 4D demonstrate that not only do households with unemployed food preparers purchase more lamb in total (Table 4C), they also tend to purchase more per household. Tables 4E and 4F show that households with unemployed food preparers also spend more in total and per household than other households. However, as Table F shows, those same households with unemployed food preparers tend to pay less per pound for lamb than other households. Households with unemployed food preparers paid from \$5.70/lb to \$6.33/lb over the six years of the panel for an average of \$6.01/lb. The prices paid for lamb by households with full-time employed food preparers were somewhat higher over the same six years, ranging from \$5.56/lb to \$6.86/lb for an average of \$6.35/lb. The implication is that unemployed food preparers tend to purchase lower cost cuts of lamb than employed food preparers.

### **Lamb Purchases and Price Paid by Education Level of the Person in the Household Primarily Responsible for Food Preparation/Meal Planning**

An average of about 40% of the food preparers in the households participating in the panel had a college degree of some type over the six years of the panel (Table 5A). Another third of the food preparers in participating households had some college education while almost a quarter had only a high school education. The remaining 3% of the food preparers in the participating households had less than a high school education.

The market penetration for lamb is positively correlated with the educational attainment of the food preparer in the household (Table 5B). Over the six years of the panel, an average of about 10.5% of the households with a food preparer with a college degree purchased lamb compared to 10% of those with only some college education, 8.5% of those with only a high school education, and only 6.3% of those with less than a high school education (Table 5B). The implication is that households with food preparers with at least some college education are a primary target for lamb promotion and advertising.

Tables 5C and 5D suggest that while those households with food preparers with higher educational attainment purchase more lamb in total, that does not mean that they purchase more per household than households with food preparers with lower educational attainment. Although the educational level with the highest per household purchases of lamb has varied considerably from year to year over the six years of the panel, on average over the six years, the per household purchases of the households with food preparers with the highest educational attainment was exactly the same (2.9 lb/household) as that for the households with food preparers with the least amount of education (Table 5D). Those households with food preparers with high school education or at least some college tended to purchase more per household than households with food preparers in the other two educational categories. The implication for advertising is, therefore, somewhat mixed. While the market penetration improves with an increase in the educational attainment of the household's food preparer, the amount of lamb purchased by a given household in each year does not seem to be related to the level of education of the household food preparer.

The same conclusions relating to purchases of lamb by the education level of the household food preparer also hold for expenditures of households by education level (Table 5E and 5F). Household expenditures on lamb are positively correlated with the education level of the household food preparer (Table 5E) but the amount spent per household on lamb in a year seems to be less directly correlated (Table 5F). Households with food preparers with the least amount of education, however, seem to spend less per household on lamb than other households.

Interestingly, the average price paid for lamb by households appears to be inversely correlated with the educational attainment of the household food preparer. As shown in Table 5G, although households with a food preparer with the highest educational attainment tend to purchase more lamb than other households, they also tend to pay substantially less for the lamb they purchase than any other household. Over the six years of the panel, households with a food preparer with a college degree paid an average price of only \$4.35/lb compared to an average of \$6.35/lb by households with food preparers with a high school education, \$6.22/lb by households with food preparers with less than a high school education, and \$6.01/lb by those with food preparers that have at least some college education.

### **Lamb Purchases and Price Paid by Household Race**

Nearly 81% of the households over the six years of the panel classified themselves as white while 12% classified themselves as black, 2% as oriental, and the remaining 5% as "other"

(Table 6A). Nevertheless, market penetration was greatest among black households where nearly 14% purchased at least some lamb on average in each year over the six years of the panel (Table 6B). The second greatest market penetration by race was among oriental households of which over 10% reported purchasing at least some lamb on average in each year over the six years compared to only 9.3% for white households. Market penetration over those six years was the lowest (7.5%) among households not fitting into any of the other 3 race categories.

Owing to their larger number on the panel, white households purchased more lamb in each year than households in any other race category (Table 6C). Nevertheless, black households purchased considerably more per household than those of any other category (3.6 lbs/household) on average over the 6 panel years (Table 6D). White and oriental households tended to purchase about the same amount per household in each year on average over the six years of the panel (2.9 and 2.7 lb/household, respectively). Households in the “other” race category tended to purchase less lamb per household than those in the other race categories.

In terms of expenditures on lamb, however, the story is a little different. While white households also spend more in total on lamb than households in other race categories (Table 6E), they also spend more per household than households in any other race category (Table 6F). The implication is that while white households tend to purchase *less* lamb per household than black households, they tend to purchase the higher price cuts and, thus, spend *more* per household than black households on lamb.

The preceding conclusion is borne out by the data relating to the price paid for lamb by households in the various race categories (Table 6G). White households paid a substantially higher price for lamb on average over the six years of the panel (\$6.52/lb) than black households (\$4.84/lb), oriental households (\$5.50/lb), and households in other race categories (\$5.47/lb). A possible implication is that advertising might need to be designed specifically for households of different races to achieve the maximum return per dollar spent on advertising. White households are a target for advertising related to higher price cuts whereas black households are a target for advertising that emphasizes the lower price cuts.

### **Lamb Purchases and Price Paid by Household Region**

Households participating in the panel are classified as being located in the East, Central, South, or West regions of the U.S. An average of about 36% of the participating households were located in the South and about equal proportions (21%-22%) in the other three regions (Table 7A). Not surprisingly, market penetration was the highest among households in the East where an average of 16.2% of the participating households over the six years of the panel purchased lamb in each year compared to 11% in the West, 7.3% in the South, and only 6% in the Central region (7B). Obviously, households in the East are primary targets for lamb promotion and advertising.

Purchases of lamb by households in the East region were greater in total and per household on average over the six years (Tables 7C and 7D). Households in the East purchased an average of

3.3 lbs/household per year compared to 3.1 lbs/household by households in the West, 2.8 lbs/household by households in the Central regions, and 2.7 lbs/household by households in the South (Table 7D). This suggests that households in the West may also be primary targets for lamb advertising.

The household expenditures on lamb tell a somewhat different story than purchases of lamb quantities by households in the various regions (Tables 7E and 7F). While households in the East spent the most in total on lamb over the six years of the panel, households in the West tended to spend more per household each year on average (\$18.4) than households in the East (\$16.9). This situation is reflected in the prices paid for lamb in the various regions. Note that households in the West paid the highest price for lamb on average over the six years (\$6.64/lb) compared to the \$5.88/lb paid by households in the East which was nearly identical to the \$5.86/lb paid for lamb by households in the Central region (\$5.86/lb) but lower than the \$6.35/lb paid by households in the South. This result brings into question the traditional belief that California and other Western states are “price markets” that purchase primarily low price cuts. This particular conclusion bears further investigation.

## **Conclusions**

The HomeScan™ data for lamb purchases provides an inside look at lamb purchasing for at-home lamb consumption from various household demographic perspectives, including: (1) household size (number in the household), (2) household income, (3) age of the person primarily responsible for food preparation and meal planning, (4) employment status of the person primarily responsible for food preparation and meal planning, (5) education level of the person primarily responsible for food preparation and meal planning, (6) race, and (7) region where the household is located. Because the panel is constructed to be representative of consuming households in each of these market demographics, the conclusions stemming from an examination of the panel data can be considered to represent the national population of food consumers.

Regarding household lamb purchasing behavior for at-home consumption, the salient conclusions flowing from an analysis of this unique dataset for the six years of 1998 through 2003 are the following:

### *Market Penetration*

- An average of about 9.7% of all households purchased lamb each year.
- Market penetration jumped from an average of 9.2% in the three years prior to the implementation of the lamb checkoff program to an average of about 10.5% in the two years of the dataset precisely when the American Lamb Board began promoting lamb demand with checkoff dollars.
- Market penetration is positively correlated with:
  - the age of the food preparer in the household;
  - the household income level; and
  - the level of educational attainment of the household food preparer.



- Market penetration tends to be inversely correlated with household size so that market penetration has tended to be higher among households with relatively fewer members in the household.
- Market penetration tends to be highest among households with the following characteristics:
  - smaller household sizes;
  - higher income levels;
  - more mature (older) food preparers;
  - more educated food preparers;
  - unemployed (outside the home) food preparers;
  - household race classified as “black”; and
  - located in the East region of the United States.

#### *Household Lamb Purchases and Expenditures*

- Lamb purchases per household tend to be higher for households with the following characteristics:
  - smaller household size;
  - more mature (older) the food preparer;
  - unemployed (outside the home) food preparer;
  - a food preparer with some college education or a high school education;
  - household race classified as “black”; and
  - located in the East or West regions.
- Household income level is not strictly correlated with the quantity of lamb purchased per household.
- Lamb expenditures per household follow the same demographic tendencies as lamb purchases per household with a few exceptions:
  - there is no clear correlation between household size and expenditures per household;
  - lamb expenditures per household are positively correlated with household income;
  - the correlation of lamb expenditures per household with the education level of the household food preparer is somewhat higher than that of the quantity of lamb purchased per household with the education level of the household food preparer; and
  - While black households purchase more lamb per household than those of other races, white households spend more on lamb per household than those of other races.

#### *Prices Paid by Households Purchasing Lamb*

- The price per pound paid for lamb tends to be positively correlated with:
  - the size of the household;
  - the income level of the household; and
  - the age of the food preparer although the oldest household food preparers (over 65 years of age) tended to pay among the lowest price per pound for lamb.
- The price per pound paid for lamb tends to be negatively correlated with the educational attainment of the food preparer.
- The price per pound paid for lamb tends to higher among households with the following characteristics:
  - large household size;
  - higher income;

- lower education level;
- age of the food preparer between 25 and 65;
- full-time employed food preparer;
- household race classified as “white”; and
- located in the South or West regions of the U.S.

### *Lamb Advertising*

- Primary targets of lamb advertising include the following:
  - smaller households, particularly those with 2 members in the household;
  - higher income households;
  - households with more mature food preparers;
  - households with unemployed food preparers like full-time homemakers;
  - households with food preparers with at least some college education;
  - black households for lower price cuts;
  - white households for higher price cuts; and
  - households located in the East and West regions.
- Advertising that effectively conveys that lamb is easy and quick to prepare for a meal would likely be successful in increasing the market penetration among households with full-time employed food preparers.
- Advertising focusing on away-from-home lamb consumption may be effective in boosting the lamb consumption of households with full-time employed food preparers.

In the future, three additional areas of research need to be pursued using this dataset. First, the dataset can be sliced even more thinly to examine the relationship between consumer lamb purchasing behavior and various combinations of demographic characteristics. For example, instead of simply looking at lamb purchases by race or by income, we can look at lamb purchases by income for each race or by race for each income level. An analysis of lamb purchasing behavior using various combinations of the demographic characteristics can be done. Once ALB has examined the results from this report, we can define what combinations of the various demographic characteristics would be of most interest to ALB.

Second, the same information presented in this report or for combinations of the demographic characteristics can be developed for the following lamb cuts: (1) blade chops; (2) loin chops; (3) arm chops; (4) rib chops; (5) total lamb chops; (6) center roasts; (7) ground lamb; (8) lamb for stew; (9) leg of lamb; and (10) other lamb.

Finally, the information in this report provides some indication of the consumer characteristics driving the demand for lamb. However, the results are somewhat indeterminate in many cases and cannot indicate which are the key demographic factors or provide a measurement of the effect on lamb purchasing from a change in any demographic characteristic. Statistical methods such as multivariate profit model estimation, however, can be applied to the dataset to measure the relationship between lamb purchases, for example, and price and the various demographic characteristics to determine which are the primary drivers of lamb demand and measure how lamb purchasing behavior changes with changes in any of those factors. The results would be extremely useful in determining how to allocate lamb-advertising dollars among various potential targets and target markets.

## TABLES

**Table 1A: Number of Households by Number in Household, 1998-2003**

Year	Number of Individuals in Household					Total
	1	2	3	4	>5	
	----- number of households -----					
1998	1,427	2,679	1,316	1,333	864	7,619
1999	1,539	2,612	1,165	1,062	746	7,124
2000	1,836	2,752	1,172	1,065	698	7,523
2001	2,025	2,984	1,276	1,172	759	8,216
2002	2,207	3,141	1,341	1,177	819	8,685
2003	2,339	3,311	1,325	1,102	756	8,833
Total	11,373	17,479	7,595	6,911	4,642	48,000

**Table 1B: Percentage of Households that Consume Lamb by Number in Household, 1998-2003**

Year	Number of Individuals in Household					Average
	1	2	3	4	>5	
	----- % -----					
1998	7.5	12.4	8.1	7.4	6.6	9.2
1999	8.5	10.9	8.0	7.4	7.8	9.1
2000	8.1	11.0	9.9	7.3	7.4	9.3
2001	7.9	12.0	7.8	8.4	6.9	9.3
2002	9.6	13.5	10.0	8.8	8.5	10.8
2003	9.2	12.6	9.4	9.2	6.5	10.3
Average	8.4	12.1	8.9	8.1	7.3	9.7

**Table 1C: Quantity of Lamb Purchased by Household Size, 1998-2003**

Year	Number of Individuals in Household					Total
	1	2	3	4	>5	
	----- lbs -----					
1998	286	1,034	316	236	149	2,021
1999	323	765	268	215	166	1,737
2000	370	793	304	200	143	1,810
2001	456	971	257	226	122	2,032
2002	803	1,669	469	396	226	3,563
2003	811	1,492	446	340	155	3,244
Total	3,049	6,724	2,060	1,613	961	14,407

**Table 1D: Lamb Purchases Per Household by Household Size, 1998-2003**

Year	Number of Individuals in Household					Wtd. Average
	1	2	3	4	>5	
	----- lbs -----					
1998	2.7	3.1	3.0	2.4	2.6	2.9
1999	2.5	2.7	2.9	2.7	2.9	2.7
2000	2.5	2.6	2.6	2.6	2.8	2.6
2001	2.9	2.7	2.6	2.3	2.3	2.6
2002	3.8	3.9	3.5	3.8	3.2	3.8
2003	3.8	3.6	3.6	3.4	3.2	3.6
Average	3.0	3.1	3.0	2.9	2.8	3.0

**Table 1E: Lamb Expenditures by Household Size, 1998-2003**

Year	Number of Individuals in Household					Total
	1	2	3	4	>5	
	----- \$ -----					
1998	1,170	5,538	1,710	1,325	856	10,598
1999	1,219	4,390	1,449	1,136	1,099	9,293
2000	1,619	4,412	1,729	1,118	855	9,734
2001	1,861	5,497	1,365	1,397	817	10,938
2002	3,580	9,081	2,526	2,114	1,365	18,665
2003	3,776	9,024	2,446	2,262	1,067	18,574
Total	13,225	37,943	11,224	9,352	6,059	77,802

**Table 1F: Lamb Expenditures Per Household by HH Size, 1998-2003**

Year	Number of Individuals in Household					Wtd. Average
	1	2	3	4	>5	
	----- \$ -----					
1998	10.9	16.7	16.0	13.5	15.0	15.1
1999	9.3	15.4	15.6	14.4	18.9	14.4
2000	10.9	14.6	14.9	14.3	16.4	14.0
2001	11.7	15.4	13.7	14.1	15.7	14.2
2002	17.0	21.5	18.8	20.3	19.5	19.8
2003	17.6	21.6	19.6	22.4	21.8	20.5
Average	12.9	17.5	16.4	16.5	17.9	16.3

**Table 1G: Retail Price Paid for Lamb by Household Size, 1998-2003**

Year	Number of Individuals in Household					Wtd. Average
	1	2	3	4	>5	
	----- \$/lb -----					
1998	4.44	6.03	6.85	5.85	5.95	5.88
1999	4.41	6.26	6.32	6.07	7.27	5.96
2000	4.90	6.24	6.73	6.44	6.28	6.06
2001	4.26	6.61	6.06	7.28	7.21	6.18
2002	5.35	6.83	6.75	6.16	7.18	6.44
2003	4.96	6.77	6.95	8.09	8.29	6.59
Average	4.72	6.46	6.61	6.65	7.03	6.19

**Table 2A: Number of Households by Income Level, 1998-2003**

Year	Income Level						Total
	< 20,000	\$20,000-39,999	\$40,000-59,999	\$60,000-79,999	\$80,000-99,999	> \$100,000	
	----- number of households -----						
1998	675	2,195	2,243	797	1,174	535	7,619
1999	800	2,080	1,965	717	1,057	505	7,124
2000	887	2,131	2,006	748	1,163	588	7,523
2001	1,038	2,351	2,078	839	1,213	697	8,216
2002	1,054	2,466	2,201	792	1,337	835	8,685
2003	1,084	2,447	2,172	820	1,463	847	8,833
Total	5,538	13,670	12,665	4,713	7,407	4,007	48,000

**Table 2B: Percentage of Households that Consume Lamb by Income Level, 1998-2003**

Year	Income Level						Wtd. Average
	< 20,000	\$20,000-39,999	\$40,000-59,999	\$60,000-79,999	\$80,000-99,999	> \$100,000	
	----- % -----						
1998	7.9	8.0	9.8	9.0	8.3	15.5	9.2
1999	6.3	7.9	8.3	10.7	11.0	15.2	9.1
2000	6.8	8.2	9.2	10.0	10.8	12.8	9.3
2001	5.7	8.0	9.0	11.6	11.9	13.2	9.3
2002	8.2	9.7	11.2	10.1	12.3	15.1	10.8
2003	7.7	9.5	10.5	8.9	12.0	13.5	10.3
Average	7.1	8.6	9.7	10.1	11.1	14.2	9.7

**Table 2C: Quantity of Lamb Purchased by Income Level, 1998-2003**

Year	Income Level						Total
	< 20,000	\$20,000-39,999	\$40,000-59,999	\$60,000-79,999	\$80,000-99,999	> \$100,000	
	----- lbs -----						
1998	197	469	626	186	312	231	2,021
1999	164	414	421	236	309	193	1,737
2000	171	397	482	255	338	167	1,810
2001	153	561	495	284	342	197	2,032
2002	367	983	888	343	559	423	3,563
2003	255	795	878	262	617	437	3,244
Total	1,307	3,619	3,790	1,566	2,477	1,648	14,407

**Table 2D: Lamb Purchases Per Household by Income Level, 1998-2003**

Year	Income Level						Wtd. Average
	< 20,000	\$20,000-39,999	\$40,000-59,999	\$60,000-79,999	\$80,000-99,999	> \$100,000	
	----- lbs -----						
1998	3.7	2.7	2.8	2.6	3.2	2.8	2.9
1999	3.3	2.5	2.6	3.1	2.7	2.5	2.7
2000	2.9	2.3	2.6	3.4	2.7	2.2	2.6
2001	2.6	3.0	2.6	2.9	2.4	2.1	2.6
2002	4.3	4.1	3.6	4.3	3.4	3.4	3.8
2003	3.0	3.4	3.8	3.6	3.5	3.8	3.6
Average	3.3	3.0	3.0	3.3	3.0	2.8	3.1

**Table 2E: Lamb Expenditures by Income Level, 1998-2003**

Year	Income Level						Total
	< 20,000	\$20,000-39,999	\$40,000-59,999	\$60,000-79,999	\$80,000-99,999	> \$100,000	
	----- \$ -----						
1998	792	2,245	3,156	982	1,802	1,622	10,598
1999	595	1,840	2,270	1,210	1,894	1,484	9,293
2000	649	1,709	2,750	1,477	1,913	1,236	9,734
2001	641	2,522	2,348	1,592	2,176	1,658	10,938
2002	1,569	4,437	4,418	1,837	3,424	2,980	18,665
2003	1,077	3,977	4,683	1,705	4,142	2,991	18,574
Total	5,323	16,730	19,625	8,804	15,350	11,971	77,802

**Table 2F: Lamb Expenditures Per Household by Income Level, 1998-2003**

Year	Income Level						Wtd. Average
	< 20,000	\$20,000-39,999	\$40,000-59,999	\$60,000-79,999	\$80,000-99,999	> \$100,000	
	----- \$ -----						
1998	14.9	12.8	14.3	13.6	18.6	19.5	15.1
1999	11.9	11.2	13.9	15.7	16.3	19.3	14.4
2000	10.8	9.8	14.9	19.7	15.2	16.5	14.0
2001	10.9	13.4	12.5	16.4	15.1	18.0	14.2
2002	18.2	18.6	17.9	23.0	20.8	23.7	19.8
2003	12.8	17.1	20.4	23.4	23.5	26.2	20.5
Average	13.3	13.8	15.7	18.6	18.2	20.5	16.7

**Table 2G: Retail Price Paid for Lamb by Income Level, 1998-2003**

Year	Income Level						Wtd. Average
	< 20,000	\$20,000-39,999	\$40,000-59,999	\$60,000-79,999	\$80,000-99,999	> \$100,000	
	----- \$/lb -----						
1998	4.65	5.41	5.55	6.34	6.80	7.08	5.88
1999	4.05	4.78	5.84	5.59	7.30	8.32	5.96
2000	3.69	5.11	6.49	6.52	6.47	7.99	6.06
2001	4.05	4.94	5.70	6.20	7.58	8.88	6.18
2002	5.20	5.22	6.28	6.72	7.37	8.50	6.44
2003	4.43	5.96	5.88	7.93	7.90	8.03	6.59
Average	4.35	5.24	5.95	6.55	7.24	8.13	6.19

**Table 3A: Number of Households by Age of Food Preparer, 1998-2003**

Year	Age of Food Preparer					Total
	< 25	25-39	40-49	50-65	> 65	
----- number of households -----						
1998	121	2,171	2,315	2,177	835	7,619
1999	82	1,816	2,031	2,238	957	7,124
2000	76	1,807	2,091	2,423	1,126	7,523
2001	62	1,970	2,160	2,729	1,295	8,216
2002	48	1,936	2,334	2,924	1,443	8,685
2003	32	1,744	2,299	3,159	1,599	8,833
Total	421	11,444	13,230	15,650	7,255	48,000

**Table 3B: Percentage of Households that Consume Lamb by Age of Food Preparer, 1998-2003**

Year	Age of Food Preparer					Wtd. Average
	< 25	25-39	40-49	50-65	> 65	
----- % -----						
1998	3.3	5.8	8.4	11.1	16.2	9.2
1999	0.0	4.8	8.4	10.9	15.2	9.1
2000	3.9	5.5	8.2	10.5	14.7	9.3
2001	4.8	5.1	8.3	11.0	14.1	9.3
2002	0.0	5.7	8.7	13.1	17.0	10.8
2003	6.3	5.8	7.8	11.7	15.9	10.3
Average	2.9	5.5	8.3	11.5	15.6	9.7

**Table 3C: Quantity of Lamb Purchased by Age of Food Preparer, 1998-2003**

Year	Age of Food Preparer					Total
	< 25	25-39	40-49	50-65	> 65	
----- lbs -----						
1998	8	291	538	780	404	2,021
1999	0	198	493	635	411	1,737
2000	15	232	405	684	474	1,810
2001	18	249	421	826	518	2,032
2002	0	339	796	1,434	994	3,563
2003	13	258	679	1,309	985	3,244
Total	54	1,567	3,332	5,668	3,786	14,407

**Table 3D: Lamb Purchases Per Household by Age of Food Preparer, 1998-2003**

Year	Age of Food Preparer					Wtd. Average
	< 25	25-39	40-49	50-65	> 65	
----- lbs -----						
1998	2.0	2.3	2.8	3.2	3.0	2.9
1999	0.0	2.3	2.9	2.6	2.8	2.7
2000	5.0	2.3	2.4	2.7	2.9	2.6
2001	6.0	2.5	2.3	2.7	2.8	2.6
2002	0.0	3.1	3.9	3.7	4.0	3.8
2003	6.5	2.5	3.8	3.5	3.9	3.6
Average	3.3	2.5	3.0	3.1	3.2	3.1



**Table 3E: Lamb Expenditures by Age of Food Preparer, 1998-2003**

Year	Age of Food Preparer					Total
	< 25	25-39	40-49	50-65	> 65	
	----- \$ -----					
1998	32	1,619	2,669	4,148	2,130	10,598
1999	0	1,194	2,508	3,607	1,984	9,293
2000	39	1,128	2,377	3,769	2,421	9,734
2001	72	1,210	2,437	4,493	2,726	10,938
2002	0	1,955	4,188	7,593	4,929	18,665
2003	59	1,576	3,971	7,499	5,469	18,574
Total	201	8,684	18,150	31,110	19,657	77,802

**Table 3F: Lamb Expenditures Per Household by Age of Food Preparer, 1998-2003**

Year	Age of Food Preparer					Total
	< 25	25-39	40-49	50-65	> 65	
	----- \$ -----					
1998	7.9	12.9	13.8	17.2	15.8	15.1
1999	0.0	13.7	14.8	14.7	13.7	14.4
2000	12.9	11.3	13.8	14.8	14.6	14.0
2001	24.1	12.0	13.5	14.9	14.9	14.2
2002	0.0	17.8	20.7	19.8	20.0	19.8
2003	29.5	15.5	22.1	20.3	21.5	20.5
Average	12.4	13.8	16.4	16.9	16.8	16.7

**Table 3G: Retail Price Paid for Lamb by Age of Food Preparer, 1998-2003**

Year	Age of Food Preparer					Wtd. Average
	< 25	25-39	40-49	50-65	> 65	
	----- \$/lb -----					
1998	2.82	5.97	5.47	6.24	5.84	5.88
1999	0.00	6.48	5.91	6.29	5.16	5.96
2000	3.73	5.42	6.78	6.27	5.43	6.06
2001	14.30	5.78	6.48	6.34	5.72	6.18
2002	0.00	7.27	6.43	6.66	5.72	6.44
2003	4.00	7.63	6.59	6.60	6.19	6.59
Average	4.14	6.43	6.27	6.40	5.68	6.19

**Table 4A: Number of Households by Employment Status, 1998-2003**

Year	Employment Status			Total
	Part-time	Full-time	Unemployed	
----- number of households -----				
1998	1,420	3,998	2,201	7,619
1999	1,242	3,637	2,245	7,124
2000	1,263	3,726	2,534	7,523
2001	1,423	3,962	2,831	8,216
2002	1,443	4,161	3,081	8,685
2003	1,436	4,089	3,308	8,833
Total	8,227	23,573	16,200	48,000

**Table 4B: Percentage of Households that Consume Lamb by Employment Status, 1998-2003**

Year	Employment Status			Wtd. Average
	Part-time	Full-time	Unemployed	
----- % -----				
1998	9.9	7.5	11.9	9.2
1999	8.4	8.2	11.0	9.1
2000	8.3	8.4	11.0	9.3
2001	9.1	8.1	11.2	9.3
2002	11.2	9.7	12.3	10.8
2003	9.8	8.9	12.2	10.3
Average	9.5	8.5	11.6	9.7

**Table 4C: Quantity of Lamb Purchased by Employment Status, 1998-2003**

Year	Employment Status			Total
	Part-time	Full-time	Unemployed	
----- lbs -----				
1998	398	851	772	2,021
1999	258	774	705	1,737
2000	275	768	767	1,810
2001	287	831	914	2,032
2002	555	1,444	1,564	3,563
2003	484	1,217	1,543	3,244
Total	2,257	5,885	6,265	14,407

**Table 4D: Lamb Purchases Per Household by Employment Status, 1998-2003**

Year	Employment Status			Wtd. Average
	Part-time	Full-time	Unemployed	
----- lbs -----				
1998	2.8	2.9	3.0	2.9
1999	2.5	2.6	2.9	2.7
2000	2.6	2.5	2.8	2.6
2001	2.2	2.6	2.9	2.6
2002	3.4	3.6	4.1	3.8
2003	3.4	3.4	3.8	3.6
Average	2.8	2.9	3.2	3.1

**Table 4E: Lamb Expenditures by Employment Status, 1998-2003**

Year	Employment Status			Total
	Part-time	Full-time	Unemployed	
	----- \$ -----			
1998	1,982	4,091	4,525	10,598
1999	1,262	4,276	3,754	9,293
2000	1,617	4,224	3,893	9,734
2001	1,504	4,539	4,895	10,938
2002	3,137	7,933	7,595	18,665
2003	2,816	7,192	8,566	18,574
Total	12,318	32,256	33,228	77,802

**Table 4F: Lamb Expenditures Per Household by Employment Status, 1998-**

Year	Employment Status			Wtd. Average
	Part-time	Full-time	Unemployed	
	----- \$ -----			
1998	14.1	13.7	17.3	15.1
1999	12.1	14.4	15.3	14.4
2000	15.4	13.5	14.0	14.0
2001	11.6	14.2	15.4	14.2
2002	19.5	19.7	20.1	19.8
2003	20.0	19.8	21.2	20.5
Average	15.4	15.9	17.2	16.7

**Table 4G: Retail Price Paid for Lamb by Employment Status, 1998-2003**

Year	Employment Status			Wtd. Average
	Part-time	Full-time	Unemployed	
	----- \$/lb -----			
1998	5.81	5.56	6.28	5.88
1999	5.81	6.23	5.70	5.96
2000	6.33	6.24	5.75	6.06
2001	6.04	6.48	5.94	6.18
2002	6.64	6.70	6.08	6.44
2003	6.66	6.86	6.33	6.59
Average	6.22	6.35	6.01	6.19

**Table 5A: Number of Households by Education Level of Food Preparer, 1998-2003**

Year	Education Level				Total
	Less than High School	High School	Some College	Degree Holder	
----- number of households -----					
1998	186	1,618	2,719	3,096	7,619
1999	247	1,622	2,390	2,865	7,124
2000	254	1,867	2,500	2,902	7,523
2001	303	2,031	2,687	3,195	8,216
2002	325	2,076	2,904	3,380	8,685
2003	312	2,077	2,970	3,474	8,833
Total	1,627	11,291	16,170	18,912	48,000

**Table 5B: Percentage of Households that Consume Lamb by Education Level of Food Preparer, 1998-2003**

Year	Education Level				Wtd. Average
	Less than High School	High School	Some College	Degree Holder	
----- % -----					
1998	7.0	7.8	9.3	9.9	9.2
1999	8.1	7.0	9.6	9.9	9.1
2000	8.7	8.2	9.4	9.9	9.3
2001	5.6	8.8	8.9	10.4	9.3
2002	4.9	9.5	11.6	11.6	10.8
2003	4.8	9.1	10.8	11.0	10.3
Average	6.3	8.5	10.0	10.5	9.7

**Table 5C: Quantity of Lamb Purchased by Education Level of Food Preparer, 1998-2003**

Year	Education Level				Total
	Less than High School	High School	Some College	Degree Holder	
----- lbs -----					
1998	59	337	820	805	2,021
1999	53	305	653	726	1,737
2000	48	429	638	695	1,810
2001	54	476	651	851	2,032
2002	52	807	1,327	1,377	3,563
2003	28	612	1,147	1,457	3,244
Total	294	2,966	5,236	5,911	14,407

**Table 5D: Lamb Purchases Per Household by Education Level of Food Preparer, 1998-2003**

Year	Education Level				Wtd. Average
	Less than High School	High School	Some College	Degree Holder	
----- lbs -----					
1998	4.5	2.7	3.3	2.6	2.9
1999	2.7	2.7	2.9	2.5	2.7
2000	2.2	2.8	2.7	2.4	2.6
2001	3.2	2.7	2.7	2.6	2.6
2002	3.3	4.1	3.9	3.5	3.8
2003	1.9	3.2	3.6	3.8	3.6
Average	2.9	3.0	3.2	2.9	3.1

**Table 5E: Lamb Expenditures by Education Level of Food Preparer, 1998-2003**

Year	Education Level				Total
	Less than High School	High School	Some College	Degree Holder	
	----- \$ -----				
1998	247	1,783	4,218	4,349	10,598
1999	184	1,761	3,312	4,036	9,293
2000	179	2,061	3,356	4,138	9,734
2001	187	2,371	3,674	4,706	10,938
2002	252	3,773	7,195	7,444	18,665
2003	140	3,533	6,338	8,564	18,574
Total	1,189	15,282	28,093	33,238	77,802

**Table 5F: Lamb Expenditures Per Household by Education Level of Food Preparer, 1998-2003**

Year	Education Level				Wtd. Average
	Less than High School	High School	Some College	Degree Holder	
	----- \$ -----				
1998	19.0	14.0	16.7	14.1	15.1
1999	9.2	15.6	14.5	14.2	14.4
2000	8.1	13.5	14.3	14.4	14.0
2001	11.0	13.2	15.3	14.2	14.2
2002	15.8	19.1	21.3	19.0	19.8
2003	9.3	18.7	19.7	22.4	20.5
Average	12.1	15.7	17.0	16.4	16.7

**Table 5G: Retail Price Paid for Lamb by Education Level of Food Preparer, 1998-2003**

Year	Education Level				Wtd. Average
	Less than High School	High School	Some College	Degree Holder	
	----- \$/lb -----				
1998	5.81	5.56	6.28	4.25	5.25
1999	5.81	6.23	5.70	3.04	4.62
2000	6.33	6.24	5.75	3.93	5.13
2001	6.04	6.48	5.94	4.44	5.42
2002	6.64	6.70	6.08	5.63	6.03
2003	6.66	6.86	6.33	4.82	5.81
Average	6.22	6.35	6.01	4.35	5.38

**Table 6A: Number of Households by Race, 1998-2003**

Year	Race				Total
	White	Black	Oriental	Other	
----- number of households -----					
1998	6,593	622	100	304	7,619
1999	6,000	721	99	304	7,124
2000	6,162	864	121	376	7,523
2001	6,572	1,100	218	326	8,216
2002	6,701	1,222	241	521	8,685
2003	6,786	1,207	265	575	8,833
Total	38,814	5,736	1,044	2,406	48,000

**Table 6B: Percentage of Households that Consume Lamb by Race, 1998-2003**

Year	Race				Wtd. Average
	White	Black	Oriental	Other	
----- % -----					
1998	8.8	14.6	10.0	7.2	9.2
1999	8.8	13.0	8.1	6.6	9.1
2000	8.8	12.6	10.7	8.0	9.3
2001	8.9	13.0	8.7	7.1	9.3
2002	10.3	15.1	11.6	7.5	10.8
2003	9.9	13.4	10.2	8.0	10.3
Average	9.3	13.7	10.1	7.5	9.7

**Table 6C: Quantity of Lamb Purchased by Race, 1998-2003**

Year	Race				Total
	White	Black	Oriental	Other	
----- lbs -----					
1998	1,661	285	23	52	2,021
1999	1,353	305	22	57	1,737
2000	1,332	395	27	56	1,810
2001	1,484	454	47	47	2,032
2002	2,552	825	80	106	3,563
2003	2,358	647	102	137	3,244
Total	10,740	2,911	301	455	14,407

**Table 6D: Lamb Purchases Per Household by Race, 1998-2003**

Year	Race				Wtd. Average
	White	Black	Oriental	Other	
----- lbs -----					
1998	2.9	3.1	2.3	2.4	2.9
1999	2.6	3.2	2.8	2.9	2.7
2000	2.4	3.6	2.1	1.9	2.6
2001	2.5	3.2	2.5	2.0	2.6
2002	3.7	4.5	2.9	2.7	3.8
2003	3.5	4.0	3.8	3.0	3.6
Average	2.9	3.6	2.7	2.5	3.1

**Table 6E: Lamb Expenditures by Race, 1998-2003**

Year	Race				Total
	White	Black	Oriental	Other	
	\$				
1998	9,154	1,052	96	296	10,598
1999	7,643	1,351	104	194	9,293
2000	7,686	1,671	94	283	9,734
2001	8,444	1,993	233	267	10,938
2002	14,387	3,363	420	495	18,665
2003	14,015	3,313	529	718	18,574
Total	61,329	12,743	1,476	2,254	77,802

**Table 6F: Lamb Expenditures Per Household by Race, 1998-2003**

Year	Race				Wtd.
	White	Black	Oriental	Other	Average
	\$				
1998	15.9	11.6	9.6	13.5	15.1
1999	14.6	14.4	13.0	9.7	14.4
2000	14.1	15.3	7.2	9.4	14.0
2001	14.5	13.9	12.3	11.6	14.2
2002	20.8	18.3	15.0	12.7	19.8
2003	20.8	20.4	19.6	15.6	20.5
Average	16.8	15.7	12.8	12.1	16.7

**Table 6G: Retail Price Paid for Lamb by Race, 1998-2003**

Year	Race				Wtd.
	White	Black	Oriental	Other	Average
	\$/lb				
1998	6.20	3.79	5.58	6.42	5.88
1999	6.32	4.59	5.58	3.21	5.96
2000	6.38	4.93	3.51	5.40	6.06
2001	6.51	4.93	5.35	6.23	6.18
2002	6.92	4.85	6.76	5.19	6.44
2003	6.78	5.95	6.22	6.37	6.59
Average	6.52	4.84	5.50	5.47	6.17

**Table 7A: Number of Households by Region, 1998-2003**

Year	Region				Total
	East	Central	South	West	
	----- number of households -----				
1998	1,488	1,886	2,642	1,603	7,619
1999	1,451	1,803	2,432	1,438	7,124
2000	1,649	1,722	2,441	1,711	7,523
2001	1,812	1,638	2,923	1,843	8,216
2002	1,893	1,688	3,209	1,895	8,685
2003	1,882	1,586	3,491	1,874	8,833
Total	10,175	10,323	17,138	10,364	48,000

**Table 7B: Percentage of Households that Consume Lamb by Region, 1998-2003**

Year	Region				Wtd. Average
	East	Central	South	West	
	----- % -----				
1998	16.5	5.1	7.1	10.6	9.2
1999	17.6	5.0	7.1	9.0	9.1
2000	14.1	6.1	7.3	10.6	9.3
2001	15.6	5.1	6.9	10.8	9.3
2002	16.6	7.8	8.0	12.6	10.8
2003	16.9	7.3	7.3	11.8	10.3
Average	16.2	6.0	7.3	11.0	9.7

**Table 7C: Quantity of Lamb Purchased by Region, 1998-2003**

Year	Region				Total
	East	Central	South	West	
	----- lbs -----				
1998	776	228	534	483	2,021
1999	750	234	395	358	1,737
2000	667	259	442	442	1,810
2001	822	208	545	457	2,032
2002	1,337	428	817	981	3,563
2003	1,172	397	754	921	3,244
Total	5,524	1,754	3,487	3,642	14,407

**Table 7D: Lamb Purchases Per Household by Region, 1998-2003**

Year	Region				Wtd. Average
	East	Central	South	West	
	----- lbs -----				
1998	3.2	2.4	2.8	2.8	2.9
1999	2.9	2.6	2.3	2.8	2.7
2000	2.9	2.5	2.5	2.4	2.6
2001	2.9	2.5	2.7	2.3	2.6
2002	4.3	3.3	3.2	4.1	3.8
2003	3.7	3.5	3.0	4.2	3.6
Average	3.3	2.8	2.7	3.1	3.1



**Table 7E: Lamb Expenditures by Region, 1998-2003**

Year	Region				Total
	East	Central	South	West	
----- \$ -----					
1998	3,797	1,043	2,819	2,939	10,598
1999	3,793	1,203	2,261	2,037	9,293
2000	3,424	1,329	2,339	2,641	9,734
2001	4,457	979	2,861	2,640	10,938
2002	6,334	2,190	4,598	5,542	18,665
2003	6,470	1,947	4,354	5,804	18,574
Total	28,275	8,691	19,233	21,604	77,802

**Table 7F: Lamb Expenditures Per Household by Region, 1998-2003**

Year	Region				Wtd. Average
	East	Central	South	West	
----- \$ -----					
1998	15.4	10.9	15.0	17.3	15.1
1999	14.8	13.4	13.1	15.8	14.4
2000	14.8	12.7	13.1	14.6	14.0
2001	15.7	11.7	14.2	13.3	14.2
2002	20.2	16.7	17.8	23.2	19.8
2003	20.3	16.9	17.1	26.3	20.5
Average	16.9	13.7	15.1	18.4	16.7

**Table 7G: Retail Price Paid for Lamb by Region, 1998-2003**

Year	Region				Wtd. Average
	East	Central	South	West	
----- \$/lb -----					
1998	5.75	5.19	5.63	6.74	5.88
1999	5.57	5.84	6.26	6.41	5.96
2000	5.84	5.19	6.32	6.60	6.06
2001	6.24	5.46	6.26	6.32	6.18
2002	5.86	6.77	6.85	6.57	6.44
2003	6.00	6.72	6.75	7.20	6.59
Average	5.88	5.86	6.35	6.64	6.19