An Analysis of Household Consumption of Rabbit Meat in the Southern United States

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Results from a random sample of 1421 households in the southern United States suggest that the most likely consumers of rabbit meat are men, non-college graduates, those with household incomes at or below $50,000, households with children, and Louisiana residents. The current market for rabbit meat is small. However, the meat is lower in fat, cholesterol, and calories, and higher in protein than beef, chicken, turkey, or pork, and these desirable nutritional attributes may spark future demand.

In the past decade, U.S. rabbit production has grown from being predominantly for home consumption to a large-scale commercial operation of about 200,000 rabbit producers. Researchers estimate that about eight million rabbits are produced each year and that between eight to ten million pounds of meat are consumed annually (Morrow et al. 1994). By 2020, the U.S. population is projected to increase by 50 to 80 million, with the ethnic population reaching 36 percent. Consequently, the American marketplace will continue to offer large varieties of ethnic food products (Blisard et al. 2002).

Ethnic diversity and greater nutritional awareness have changed tastes and preferences, and have influenced food demand in the United States (Variyam and Golan 2002). Rabbit meat is one of the most nutritious white meats available for human consumption, and it could become a dominant protein source for U.S. consumers. The meat is lower in fat, cholesterol, and calories, and higher in protein than beef, chicken, turkey, or pork (Eaudike Commercial Rabbits 2003). Because of its nutritional attributes and easy digestion, rabbit meat is often recommended for low-sodium and weight-reduction diets and in diets geared toward senior citizens, persons with heart disease, and those having difficulties digesting other meats (NARCI 2003).

Although the nutritional benefits of consuming rabbit meat are compelling, the meat has to overcome the Easter-Bunny syndrome for it to become more acceptable to consumers. Given this hurdle, differences in eating habits, and the 80-percent failure rate for new products, market research must examine consumer reactions to rabbit meat. Specifically, the research must address how demographic, socioeconomic, and regional (DSR) characteristics influence previous and future consumption of the meat. Our study is a step in that direction.

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Objectives

The study's objectives are to determine how DSR characteristics influence previous consumption of rabbit meat; willingness to purchase rabbit nuggets, patties, or roasts; willingness to purchase rabbit meat packaged with recipes and cooking instructions; and willingness to purchase prepackaged, marinated, and ready-to-cook rabbit meat. The findings will help determine rabbit meat's market potential, and the economic viability of rabbits as a nontraditional enterprise for small-scale farming.

Data And Model

Data were compiled from a stratified random telephone survey of 1421 primary grocery shoppers or meal preparers in Alabama, Arkansas, Florida, Georgia, Kentucky, Louisiana, Mississippi, North Carolina, Oklahoma, South Carolina, Tennessee, Texas, and Virginia during the summer of 1998. The survey collected data on respondents' DSR characteristics: age, gender, race, household size, educational level, marital status, household income, presence of children in the household, employment status, and geographical location. Respondents' prior consumption of rabbit meat was assessed by asking if they had ever eaten rabbit meat. Future consumption was measured by asking respondents whether

they would or would not buy rabbit nuggets, patties, or roasts; packaged rabbit meat with recipes and cooking instructions; or prepackaged, marinated, ready-to-cook rabbit meat. The time frame for buying the value-added forms of the meat was based on their availability at local grocery stores within the next month. We used chi-square contingency tests to determine whether consumption patterns were independent of DSR characteristics.

Descriptive Statistics

Based on the survey, the average age of the surveyed respondents was 43.8 years. Seventy-two percent were women; 80 percent were Caucasians, 14 percent African Americans, and 6 percent other races. The average household size was about three persons; 36 percent of the respondents were college graduates, and 60 percent were married. Forty-four percent had household income levels below $25,000, 41 percent between $25,000 and $50,000, and 14 percent had household income levels over $50,000. Almost one-fifth of the respondents lived in households with children under the age of five, 25 percent in households with children between the ages of five and 12, and 21 percent in households with children between the ages of 13 and 18. Fifty percent of the respondents were employed.

Empirical Results

Table 1 shows the cross tabulations for rabbit-meat consumption for the DSR characteristics with statistically significant coefficients. From the table, 53 percent of the respondents have eaten rabbit meat previously. These consumers are more likely to be at least 36 years old, men, Caucasians, to have household incomes at or below $50,000, and to have children between the ages of 13 and 18 in the household, or to live in Kentucky, Louisiana, or Mississippi. Previous consumption of rabbit meat is invariant to household size, marital status, or to being residents of Alabama, Arkansas, Georgia, North Carolina, Oklahoma, Tennessee, Texas, and Virginia.

Twenty-three percent of the respondents expressed some willingness to buy rabbit nuggets, patties, or roasts if they were available at local grocery stores within the next month (Table 2). These potential consumers are likely to be men, those without college degrees, with household income levels below $25,000, and to live in households with children between five and 12 years old. Willingness to buy these valued-added forms of rabbit meat is invariant to age, race, household size, marital status, employment status, and geographical location.

Results presented in Table 3 suggest that 29 percent of the sampled respondents would be willing to try rabbit meat if it were packaged with recipes and cooking instructions. Thirty-nine percent of men are willing to buy rabbit meat in this form, compared to 28 percent of women. Seventy-one percent of respondents whose household incomes are at most $50,000 would be willing to buy the meat if it were packaged with recipes and cooking instructions. Other potential buyers include people living in households with children between the ages of 13 and 18, those with jobs, nonresidents of Florida, and Louisiana residents. Age, race, education, household size, marital status, and geographical regions outside Louisiana have no effects on consumers' willingness to buy packaged rabbit meat with recipes and cooking instructions.

Table 4 presents the cross tabulations for respondents' willingness to buy prepackaged, marinated, ready-to-cook rabbit meat. Twenty-seven percent of the respondents are willing to buy rabbit meat in this form. The most likely buyers are between the ages of 18 and 35 years old, men, non-Caucasians, respondents who live in multiple-person households, those without college degrees, those with household income levels below $25,000, and those in households with children less than 12 years old. Thirty-one percent of the households with preadolescent children indicate some willingness to buy rabbit meat if it were packaged with a marinade and in ready-to-cook form. Thirty-five percent of Louisiana residents are willing to buy this form of rabbit meat. Purchase intentions are invariant to marital and employment status and to persons living outside Louisiana.

Summary and Conclusions

The study's objectives were to determine how DSR characteristics influenced previous consumption of rabbit meat; willingness to purchase rabbit nuggets, patties, or roasts; willingness to buy rabbit meat packaged with recipes and cooking instructions; and willingness to buy prepackaged, marinated, and ready-to-cook rabbit meat. The results suggested that DSR characteristics influenced previous and

Table 1. Cross Tabulations of Rabbit Consumption for DSR Characteristics with Statistically Significant Coefficients.

Variables	Tried	Not Tried	χ^2	P-Value
	--- Percentages ---			
TOTAL	53	47		
AGE				
18–35	42	58		
36–54	58	42		
55 and older	58	42	30.7022***	0.0000
GENDER				
Female	49	51		
Male	63	37	23.2740***	0.0000
RACE				
Other	43	57		
Caucasians	53	47	3.3769*	0.0661
INCOME				
<$25,000	55	45		
$25,000–$50,000	55	45		
≥$50,000	49	51	4.9344*	0.0848
CHIL1318				
Yes	57	43		
No	51	49	3.1107*	0.0778
WORK				
Employed	50	50		
Unemployed	55	45	3.2114*	0.0731
FLORIDA				
Resident	44	56		
Non-resident	54	46	8.6082***	0.0034
KENTUCKY				
Resident	64	36		
Non-resident	52	48	3.6481*	0.0561
LOUISIANA				
Resident	68	32		
Non-resident	51	49	11.6821***	0.0006
MISSISSIPPI				
Resident	67	33		
Non-resident	52	48	3.4499*	0.0633
SCAROLINA				
Resident	42	58		
Non-resident	53	47	3.3237*	0.0683

(*) and (***) imply statistically significant at the 10- and 1-percent levels of probability, respectively.

Table 2. Cross Tabulations of Willingness to Buy Rabbit Nuggets, Patties, or Roasts for DSR Characteristics with Statistically Significant Coefficients.

Variables	Willing To Buy	Not Willing To Buy	χ^2	P-Value
	--- Percentages ---			
TOTAL	23	77		
GENDER				
Female	20	80		
Male	31	69	19.8291***	0.0000
COLLEGE				
College	20	80		
No college	25	75	4.4301**	0.0353
INCOME				
<$25,000	29	71		
$25,000–$50,000	24	76		
≥$50,000	17	83	17.3869***	0.0002
CHILD512				
Yes	26	74		
No	22	78	2.9376*	0.0865
NOCHILD				
Yes	21	79		
No	25	75	3.8489**	0.0498

future consumption of rabbit meat and its byproducts. Overall, respondents were more receptive to purchasing the meat if it were packaged with recipes and cooking instructions (29 percent) than to buying processed forms of the meat (23 percent) or the meat if it were marinated (27 percent).

In general, respondents' predispositions toward rabbit meat were associated with age; gender; race; education; household income, size, and composition; and areas of residence. Men, those without college degrees, those with household incomes at or below $50,000, and Louisiana residents were the most receptive to rabbit meat. Establishing a successful niche market for a new product is always a challenge, and it may be even more daunting for rabbit meat because of the Easter-Bunny stigma attached to the meat. Despite this potential drawback, rabbit meat has very desirable nutritional properties, and the nutritional benefits may supercede any reservations consumers have about eating rabbit meat. If this prediction is correct, rabbit meat may become a competitor to traditional meats such as beef, pork, chicken, turkey, fish, and other seafood.

The U.S. population is wealthier, older, more educated, and more ethnically diverse than in the past (Blisard et al. 2002). Consumers will continue to demand nutritious and conveniently prepared foods. The most successful food companies will continue to be the ones that readily respond to consumers' changing wants, needs, and diversity by providing new and different food choices. Based on the study's findings, there is a small but expanding market for rabbit meat in the South. With time, this market could grow and challenge traditional meats. If this prediction is correct, rabbits could become an economicly viable nontraditional enterprise for small farmers.

Table 3. Cross Tabulations of Willingness to Buy Rabbit Packaged with Recipes and Cooking Instructions for DSR Characteristics with Statistically Significant Coefficients.

Variables	Willing To Buy	Not Willing To Buy	χ^2	P-Value
	--- Percentages ---			
TOTAL	29	71		
GENDER				
Female	28	72		
Male	39	61	16.4718***	0.0001
INCOME				
<$25,000	37	63		
$25,000–$50,000	34	66		
≥$50,000	23	77	23.5796***	0.0000
CHILD1318				
Yes	33	67		
No	30	70	2.9734*	0.0824
NOCHILD				
Yes	29	71		
No	34	66	4.2102**	0.0402
WORK				
Employed	28	72		
Unemployed	34	66	6.6037**	0.0402
FLORIDA				
Resident	25	75		
Non-resident	32	68	4.9020**	0.0268
LOUISIANA				
Resident	39	61		

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Table 4. Cross Tabulations of Willingness to Buy Pre-Packaged, Marinated, Ready-to-Cook Rabbit Meat for DSR Characteristics with Statistically Significant Coefficients.

Variable	Willing To Buy	Not Willing To Buy	χ^2	P-Value
	--- Percentages ---			
TOTAL	27	73		
AGE				
18- 35	30	70		
36- 54	27	73		
55 and older	21	79	8.1661**	0.0169
GENDER				
Female	23	74		
Male	35	65	18.4509***	0.0000
RACE				
Caucasians	25	75		
Non-caucasians	32	68	5.4806**	0.0192
HSIZE				
Single	20	80		
Multiple	28	72	6.6366***	0.0099
COLLEGE				
College	23	77		
No college	29	71	5.4573**	0.0195
INCOME				
<$25,000	32	68		
$25,000 - $50,000	27	73		
≥$50,000	22	78	10.2969***	0.0058
CHILDU5				
Yes	31	69		
No	25	75	4.0665**	0.0437
CHILD512				
Yes	31	69		
No	25	75	4.3084**	0.0379
NOCHILD				
Yes	24	76		
No	30	70	6.4037**	0.0114
FLORIDA				
Resident	19	81		
Non-resident	28	72	7.5347***	0.0061
LOUISIANA				