Consumer Perceptions of, and Attitudes Toward, Rabbit Meat

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Abstract: Results from a consumer-oriented study of households in Louisiana and Texas suggest that the nutritional properties of rabbit meat play a minor role in its consumption. In general, users regard rabbit meat as inferior to chicken, beef or pork and non-users are reluctant to try rabbit meat. Based on these results, the market for rabbit meat is likely to remain small, and rabbit production may not be a viable enterprise for farmers in this region of the country.

Key Words and Phrases: *Rabbit meat, Nutrition, Consumer perceptions and attitudes.*

As farm incomes from traditional crop and livestock enterprises declined in the 1980s, there was renewed interest in finding ways to diversify production agriculture and to enhance farm income levels. Much of this interest was directed toward identifying enterprises that could provide a high return to the producer, but required very little land and capital. Goats, rabbits, sheep, bees, fish, game birds, herbs, spices, most small fruits and vegetable crops were considered promising nontraditional enterprises (French; Reimund and Somwaru).

Agricultural scientists have devoted a significant amount of research funds and energy to the investigation of nontraditional enterprises to enhance the social and economic well-being of farmers. Animal scientists have conducted research on rabbits as a possible alternative to traditional meat animal enterprises. Preliminary research suggests that rabbit meat is rich in protein (Cheeke) and lower in fat, sodium and cholesterol than beef, pork and mutton (Costa; Lukefahr, Nwosu and Rao; Rao *et al.*) Despite these findings, economic analyses of production and marketing should be done before any new or alternative crop and livestock enterprises are recommended to farmers (Babb and Long; Bateman, Sollie and Stenmark; Polopolus).

The economic viability of any new enterprise will depend on farmers being able to market their products successfully. Success ultimately rests on how well new products compete within the established marketing system. The food industry in the United States has become consumer driven rather

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than producer driven. Consumers are now a more heterogeneous group who desire convenience and are concerned about pesticide residues, chemical additives, saturated fats, cholesterol, sodium and preservatives in food products (Gallo; Manchester; Misra, Huang and Ott; Putnam; Senauer, Asp and Kinsey).

Small quantities of rabbit meat are now on display at several grocery stores in Baton Rouge, Louisiana. Although the meat has the appearance of a dressed chicken leg quarter, the price is more comparable to boneless and skinless chicken breasts than to the whole or other parts of the chicken. Based on prices, rabbit meat would be at a disadvantage when compared to chicken. Because of its nutritional characteristics and the willingness of consumers to try new and exotic foods, rabbit meat may have potential to become a viable economic enterprise for farmers in the United States. Senauer, Asp and Kinsey caution, however, that a dichotomy sometimes exists between being aware of the composition of a nutritious diet and what is actually eaten. Therefore, a consumer-oriented study was done to find out what role, if any, the nutritional characteristics of rabbit meat play in shaping consumer perceptions of, and attitudes toward, this meat.

The objectives of the study are to assess: 1) the importance of nutritional and other meat characteristics to the consumption of rabbit meat; 2) users' perceptions of rabbit meat as compared to chicken, beef, and pork; and 3) deterrents to, and interest in, consuming rabbit meat. Because research suggests that rabbit meat is rich in protein and lower in fat, sodium and cholesterol than beef, pork and mutton, the study examines whether these and other meat characteristics affect the consumption of rabbit meat. Rabbit meat would also be competing for market share in an environment currently dominated by chicken, beef and pork. Therefore, users' perceptions of rabbit meat should be compared to chicken, beef and pork. Obstacles to, and incentives for, possible expansion of consumption among current non-users of rabbit meat are also explored.

The first section of the paper outlines the procedures used to collect the data and summarizes the socioeconomic characteristics of all respondents. Results for the three objectives are presented next. The summary and conclusions are presented in the final section of the paper.

Procedures

The Consumer Survey. Data for the study were compiled from a survey of Louisiana and Texas households. A random sample was drawn from telephone subscribers in seven Standard Metropolitan Statistical Areas in Louisiana, and two in southeast Texas during February, 1993. A private marketing firm conducted the survey. The firm used the computer-assisted

telephone interviewing (CATI) system to collect the data. With the CATI system, the interviewer reads questions from a screen and enters responses with a computer keyboard. This technique allows automatic rotation and skip patterns, depending on how a previous question is answered, and thereby reduces the potential for survey error. The sample contained 1,002 respondents.

Data were collected on meat preferences; the likelihood of trying new foods and specialty meats; the importance of meat characteristics and health-related issues to the purchase of meats; and socioeconomic characteristics (age, education, ethnic origin, gender, household size, income, marital status, occupation and religion). The respondents were the persons responsible for the grocery shopping in their respective households.

Regarding meat characteristics and health-related issues, respondents were asked to rate the importance of 1) low in saturated fat, 2) price, 3) low in cholesterol, 4) free from chemical additives, 5) taste of the meat, 6) being a red meat, 7) appearance, 8) low in sodium, 9) freshness, 10) USDA label, 11) being a white meat, and 12) tenderness, when they selected a particular meat. The rating scale was 5 (extremely important), 4 (very important), 3 (somewhat important), 2 (not very important), and 1 (not important). The follow-up question asked respondents to select the single most important characteristic to them.

Next, respondents were told rabbit meat had several of the above characteristics and were asked whether they had tried, would be likely to try, somewhat likely to try, not very likely to try, or definitely would not try, rabbit meat. Those who had tried rabbit meat were asked why they had done so and whether they consumed the meat at home or in a restaurant. Users were asked to compare rabbit meat to beef, pork and chicken.

Non-users were asked to provide specific reasons for not eating rabbit meat and whether they would be willing to try the meat if it was recommended by a relative or friend, offered as a special dish in a restaurant, or presented as cooked samples in grocery stores. The rating scale was 0 (do not know), 1 (definitely would not try), 2 (not very likely), 3 (somewhat likely), 4 (very likely), and 5 (definitely would try).

Food choices are linked to socioeconomic characteristics, prices, and cultural background (Lutz, Blaylock and Smallwood). For this study, chi-square contingency tests are used to show whether there are significant differences in respondents' consumption patterns due to socioeconomic characteristics. Age, education, gender, household size, income and race are selected for the statistical analysis; results are reported only on statistically significant coefficients.

Socioeconomic Characteristics of Respondents. Of the 1,002 respondents in the survey, 75 percent were female. While this total is high compared to census data, it reflects our efforts to direct the questionnaire at persons responsible for the grocery shopping. The Houston-Beaumont market had the highest proportion of male respondents (35 percent). About 50 percent were less than 44 years old; 47 percent had a high school diploma or less; 63 percent had household incomes of less than $50,000; 79 percent were white; 66 percent were married; 30 percent indicated they were Catholics; and 51 percent of the households consisted of three or more persons.

Results

Importance Ratings, Consumption of, and Reasons for Consuming. Respondents rated freshness (4.33), taste (4.23), and appearance (4.19) as the most important characteristics when they selected meats. The three characteristics possessed by rabbit meat (low in fat, sodium and cholesterol), received ratings of 3.84, 3.78, and 3.74, respectively (Table 1). The importance indices in Table 1 suggest that the four most important nutritional and meat characteristics to respondents are freshness, low in fat, taste of the meat and the price. In general, respondents regarded meat color as the least important characteristic.

Sixty-one percent of all respondents said they had eaten rabbit meat. This consumption, however, was almost unrelated to the nutritional or meat characteristics in Table 1. Hunting (49 percent), recommended (19 percent) and easy to prepare (14 percent), were given as the main reasons for eating rabbit meat. Three percent of respondents mentioned taste as their reasons for eating rabbit meat (Figure 1). Less than 1 percent of those who had eaten rabbit said they had done so because the meat was low in cholesterol (0.3 percent) and fat (0.2 percent). Cross-tabulations of the main reasons for eating rabbit meat by socioeconomic characteristics show statistically significant differences between the consumption of rabbit meat due to gender, income and race (Table 2). Fifty-four percent of males, 55 percent of those earning less than $25,000, and 52 percent of the whites selected hunting as their main reason for eating rabbit meat.

The majority (96 percent) said previous consumption of rabbit meat was at home. In fact, 98 percent of the high school graduates/less, and 97 percent of females reported they had eaten the meat in that setting. Of the remaining four percent, college graduates, respondents with incomes of $50,000 and over, males, and those 18-34 indicated that they had eaten rabbit meat in a restaurant.

Table 1.
Importance Ratings of and Single Most Valuable Characteristic

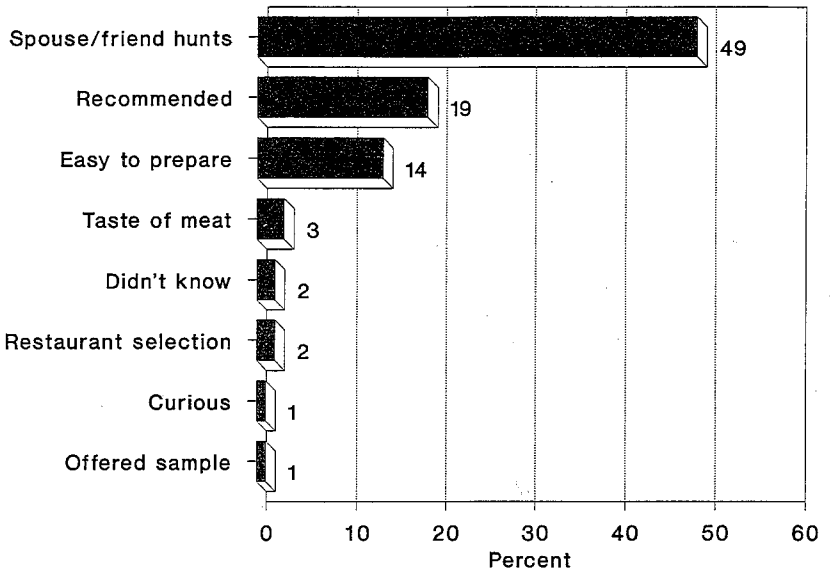
Characteristic	Importance Ratings		Most Valuable Characteristic	Importance Index[a]	
	mean	*std dev*	*percent*	*index*	*rank*
Freshness	4.33	0.54	25	108.25	1
Taste	4.23	0.55	10	42.30	3
Appearance	4.19	0.65	7	29.33	6
USDA Label	4.01	0.85	4	16.04	7
Tenderness	3.96	0.75	3	11.88	9
No Chemicals	3.96	0.84	4	14.84	8
Low in Fat	3.84	0.90	18	69.12	2
Low in Sodium	3.78	0.90	2	7.56	10
Low in Cholesterol	3.74	0.93	9	33.66	5
Price of Meat	3.53	1.00	10	35.30	4
White Meat	3.22	1.08	1	3.22	11
Red Meat	3.02	1.08	1	3.02	12

[a](Importance rating) x (Most valuable characteristic) x (100)

Perceptions of Rabbit Meat as Compared to Chicken, Beef and Pork. In general, most respondents did not regard rabbit to be as good as chicken, beef or pork. Almost seven out of ten respondents stated that rabbit meat was not as good as beef (66 percent); over half said it was not as good as pork (55 percent); and four out of ten did not think it was as good as chicken (41 percent).

Cross-tabulations of users' perceptions of rabbit meat as compared to chicken by socioeconomic variables are shown in Table 3. These results show that all the selected socioeconomic characteristics are statistically significant at the ten percent level of probability or better. Since rabbit meat has some of the attributes of chicken, it is not surprising that 40 percent of the respondents rated it similar to chicken. Males and non-whites were more likely to rate rabbit meat as being better than chicken. Those ages 35-

Figure 1.
Reasons for Trying Rabbit Meat



44, college graduates, and respondents whose incomes were $50,000 and over felt that rabbit meat was similar to chicken. Females, and those age meat as being better than chicken.

Results for users' perceptions of rabbit meat as compared to beef indicate that statistically significant differences exist between the subgroups (Table 4). Females, whites and those age 55 and older appeared more likely to consider rabbit meat as inferior to chicken. In comparison to pork, the majority of those who had eaten rabbit meat rated it inferior to pork (Table 5). Gender, age, income and race are statistically significant factors in comparisons of rabbit meat to pork. Males, those having incomes less than $25,000, and non-whites thought rabbit meat was better than pork. Those ages 45-55 felt rabbit meat was not as good as pork.

Deterrents to, and Incentives for, Trying Rabbit Meat. An effort was made to identify respondents' concerns about, obstacles to, and interest in, consuming rabbit meat. For this purpose, respondents who indicated they had not eaten rabbit meat (388) were asked whether anything in particular prevented them from doing so (Figure 2). The main responses were nothing (35 percent), could not eat rabbit meat (27 percent), would not like the taste

Table 2.
Reasons for Eating Rabbit Meat by Socioeconomic Characteristics

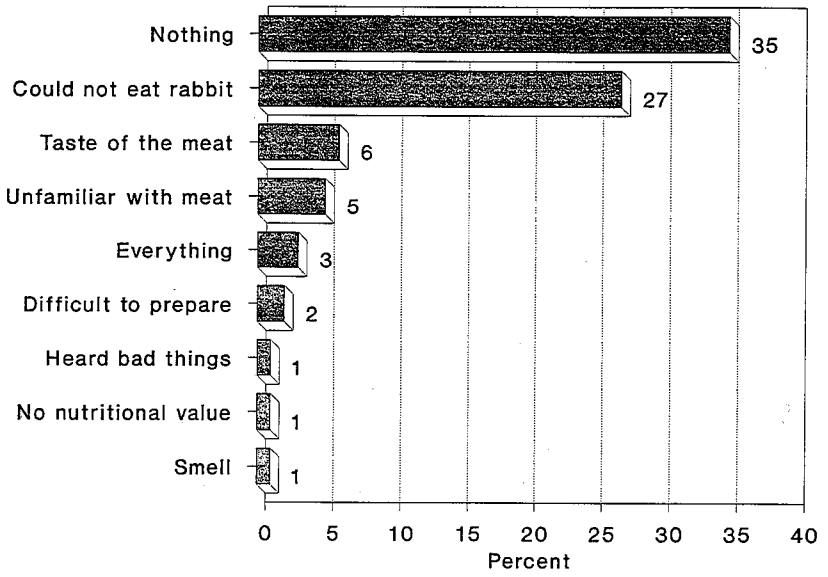
Characteristic	Easy to Prepare	Hunting	Recommended	Other[a]	Chi-Square[b]
	percent[c]				
Total	14	49	19	18	
Gender:					7.29**
Male	9	54	16	21	
Female	16	46	20	18	
Income:					16.88**
< 25,000	12	55	18	16	
25,000 - 49,999	12	47	25	17	
≥ 50,000	19	44	15	21	
Refused	16	45	14	26	
Race:					12.98***
White	13	52	16	19	
Non-White	16	38	29	18	

[a]This category includes: do not know, nothing, unaware that meat was rabbit, restaurant special, and taste of meat = 2% each; curious, samples = 1% each; displayed in store = 0.3%; low in cholesterol = 0.3%; price, protein and fat content, white meat = 0.20 each; and other = 5%.
[b]Statistically significant at the 0.05 (**) and 0.01 (***) levels.
[c]Percentages may not sum to 100 due to rounding.

of the meat (6 percent), unfamiliar with rabbit meat (5 percent), everything (3 percent), and difficult to prepare (2 percent). They were also asked whether they would consume rabbit meat in a restaurant, grocery stores or on the recommendation of friends or relatives. A rating scale ranging from 5 (definitely would try) to 1 (definitely would not try) was used to measure the importance of each of the three choices.

The mean scores from these responses were 2.17, 2.36 and 2.44 for restaurants, grocery store samples, and recommended, respectively. Note that although the descriptor, recommended, has the highest score (2.44), which falls between not very likely (2), and somewhat likely (3), the score implies that non-users are generally not inclined to try rabbit meat.

Figure 2.
Deterrents to Trying Rabbit Meat



In computing the cross-tabulations for the responses, the categories—do not know, definitely would not try, and not very likely—were combined and renamed, unlikely to try. Very likely, and definitely would try were grouped as likely to try. More than 50 percent of non-users indicated they were unlikely to try rabbit meat under any of the three options presented to them. Less than 20 percent said they would be somewhat inclined to try rabbit, while 25 percent felt they would try rabbit meat as grocery store samples, or on the recommendation of friends or relatives.
renamed, unlikely to try. Very likely, and definitely would try were grouped as likely to try.

Gender was statistically significant for the likelihood of trying rabbit meat at restaurants and grocery stores. Males seemed more likely to try rabbit meat than females. Households with one or two persons were more predisposed to trying rabbit meat at restaurants. Age and education were statistically significant in the decision to try store samples. College graduates and males appeared more likely to try grocery store samples. Thirty percent of non-users with incomes below $25,000 expressed some

Table 3.
Comparisons of Rabbit Meat to Chicken by Socioeconomic Characteristics

Characteristic	Better than	Similar to	Not as Good as	Do not know	Chi-Square[a]
	percent[b]				
Total	15	40	41	4	
Gender:					12.55***
Male	23	36	37	4	
Female	12	42	42	4	
Age (years):					34.27***
18 - 34	22	41	34	4	
35 - 44	12	48	37	3	
45 - 54	14	39	45	2	
≥ 55	13	34	48	5	
Refused	18	36	18	27	
Education					16.96***
H.S. Grad./Less	20	35	42	3	
Vo-Tech/College	13	44	39	4	
College Grad.	8	47	40	6	
Income ($):					19.13**
< 25,000	17	42	39	2	
25,000 - 49,999	15	43	38	4	
≥ 50,000	10	46	38	6	
Refused	15	26	53	6	
Race:					10.40**
White	13	42	41	4	
Non-White	23	32	40	5	

[a]Statistically significant at the 0.05 (**) and 0.01 (***) levels.
[b]Percentages may not sum to 100 due to rounding.

willingness to try rabbit meat based on recommendations from friends or relatives.

Table 4.
Comparisons of Rabbit Meat to Beef by Socioeconomic Characteristics

Characteristic	Better than	Similar to	Not as good as	Do not know	Chi-Square[a]
	percent[b]				
Total	14	13	66	7	
Gender:					8.99**
Male	13	19	61	7	
Female	14	10	67	9	
Age (years):					60.69***
18 - 34	11	19	62	8	
35 - 44	18	12	66	5	
45 - 54	9	16	67	8	
≥ 55	15	8	69	8	
Refused	9	0	27	64	
Race:					3.14*
White	13	13	67	7	
Non-White	16	13	60	11	

[a]Statistically significant at the 0.10 (*), 0.05 (**) and 0.01 (***) levels.
[b]Percentages may not sum to 100 due to rounding.

Summary and Conclusions

Health-related concerns are frequently mentioned in the literature as major contributors to changes in U.S. consumption patterns and the proliferation of new food products. Consumers in the United States appear willing to try new and exotic foods. Rabbit meat is rich in protein and lower in fat, sodium and cholesterol than beef, pork and mutton. However, this study shows that although sixty-one percent of the respondents had consumed rabbit, a large percentage (49 percent) of the consumption was associated with wild game hunting than from any other factor.

To become a viable enterprise, rabbit meat must gain market share in an environment currently dominated by chicken, beef and pork. From the results, most respondents did not regard rabbit to be as good as chicken, beef or pork. These perceptions are associated with gender, age, education,

Table 5.
Comparisons of Rabbit Meat to Pork by Socioeconomic Characteristics

Characteristic	Better than	Similar to	Not as good as	Do not know	Chi-Square[a]
	percent[b]				
Total	25	14	55	6	
Gender:					10.91***
Male	33	16	46	5	
Female	22	13	59	6	
Age (years):					62.41***
18 - 34	28	15	51	6	
35 - 44	27	18	51	4	
45 - 54	18	12	64	6	
≥ 55	24	12	59	4	
Refused	27	0	18	55	
Income ($):					17.89**
< 25,000	29	15	53	3	
25,000 - 49,999	22	15	59	4	
≥ 50,000	27	17	47	9	
Refused	18	9	64	8	
Race:					7.46*
White	24	14	58	5	
Non-White	30	14	47	9	

[a]Statistically significant at the 0.10 (*), 0.05 (**) and 0.01 (***) levels.
[b]Percentages may not sum to 100 due to rounding.

income and race. Almost seven out of ten respondents stated that rabbit meat was not as good as beef (66 percent); more than half said that it was not as good as pork (55 percent); and four out of ten did not think it was as good as chicken (41 percent). Overall, non-users did not give any major obstacles to consuming rabbit meat, but were less than enthusiastic about trying the meat.

The following conclusions were reached: 1) nutritional and meat characteristics were considered important in selecting a particular meat, but the nutritional characteristics of rabbit meat did not seem to change attitudes and perceptions about the meat; 2) because of users' perceptions of the meat in comparison to chicken, beef and pork; the presence of wild game hunting; and nonusers' reluctance to try the product, the market for rabbit meat is likely to remain small; and 3) rabbit production may not be a viable enterprise for farmers in this region of the country.

Notes

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