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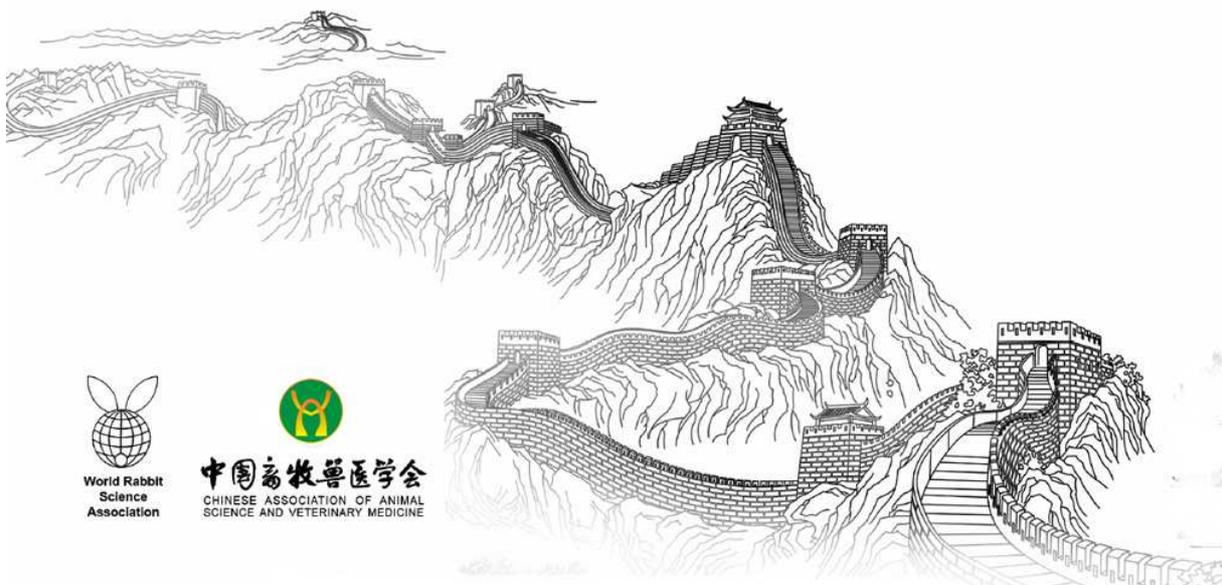
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CONSUMER DEMAND FOR RABBIT MEAT IN URBAN CHINA: 2011-2015

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ABSTRACT

This study identifies and analyzes the characteristics and constraints in the consumption of rabbit meat in urban China, using a dataset from a series of surveys during 2011-2015. Results of the surveys show that the rabbit meat consumption currently in China is relatively small in terms of the quantities and frequency consumed. Moreover, the consumer behavior and willingness-to-consume in the future on rabbit meat differ considerably among regions in China. Additionally, more than half of consumers surveyed have no preference on the rabbit meat due to lack of knowledge on the nutrition and health attributes of rabbit meat. Finally, because of lack of cooking skills, the consumers surveyed did not know how to cook rabbit meat, which hinders the increase in the rabbit meat consumption. Therefore, strengthening the publicity of the health value of rabbit meat, promoting the cooking skills of rabbit meat in the sales process, improving the brand construction on rabbit meat, ensuring the quality and safety of rabbit meat, and developing the rabbit meat products that are suitable for local consumption culture and habits can promote the stable long-term development of the rabbit meat market.

Key words: Rabbit meat, Rabbit products, Demand

INTRODUCTION

China is the largest nation in the production, consumption, and exports of rabbit meat in the world. In 2011, China's output of rabbit meat was up to 690 thousand tons, accounting for 40% of the total output in the world. The rabbit production grew at an average annual rate of 11.5% during 1985-2011 and, consequently, the output of rabbit meat was 11.3 times more than one in 1985 (Tian et al., 2012). The consumption of rabbit meat has increased constantly in China due to the marketing promotion on the rabbit meat carried out in China. As the rabbit consumption grows, the exports of rabbit meat have decreased considerably. China's exports of rabbit meat to the international market accounted for 20%-40% of its total output in the late of 1980s, but they have decreased dramatically since 1990s, with the ratio of exports to total output decreasing from less than 10% in 1998 to 1.5% in 2010. Although the consumption of rabbit meat increased rapidly and constantly over the past decades as compared to the exports in China, it accounts for less than 1% of quantities of meats consumed. For example, the consumption of rabbit meat in China was 680 thousand tons in 2010, which was 20 times higher than that in 1985, while its share in the total meat consumption accounted for only less than 0.88%. In general, the rabbit meat is less consumed by the Chinese urban residents, suggesting that the market of rabbit meat has a large potential in the future in China (Wang and Wu, 2013). The purpose of this study is to understand the consumer's behaviors in the consumption of rabbit meat as well as changes and trends of demand for rabbit meat in urban China, using the dataset of a series of surveys during 2011-2015.

MATERIALS AND METHODS

This study is a statistical analysis on the dataset from a series of sample surveys on the consumption of rabbit meat in urban China conducted during 2011-2015. These surveys are typical interviews by face to face. Table 1 reports the main features of the surveys including sample sizes, average age of respondents, and household size of respondents. It is noted that the sample sizes during 2013-2015 are smaller than those conducted in 2011 and 2012 and the sample cities selected from 2013 to 2015 are mainly located in several representative cities where the consumption of rabbit meat was more than the rest of cities in China. As shown in table 1, the number of

cities and respondents in the surveys from 2011-2012 are much larger than those during 2013-2015. Average age of respondents in the surveys during 2011-2012 is slightly older than those during 2013-2015, whereas the average household size of respondents is basically similar among these surveys.

Table 1. Main features of sample surveys during 2011-2015 in urban China

Items	2011	2012	2013	2014	2015
No. of cities selected	11	10	5	7	6
Sample size	1043	1092	463	410	554
Age of respondents	41.3	42.6	37.6	39.4	39.2
Household size	3.7	3.5	3.6	3.7	3.4

Data source: calculated from the datasets of sample surveys during 2011-2015.

RESULTS AND DISCUSSIONS

Meat consumption of urban residents

Results of the surveys show that the average monthly household consumption of pork is 5.6 kg, which accounts for more than half of quantities consumed of meats, the consumption of poultry and beef are 2.0 and 1.5 kg, respectively, and the consumption of mutton and rabbit meat together are less than 1 kg, of which, the consumption of rabbit meat is only 0.3 kg. The findings from the data are consistent with official statistics on the consumption of meats for urban population as a whole. Official statistics from the National Bureau of Statistics (NBS) indicate that the consumption of pork is the largest, the consumption of poultry and beef is the second, and the consumption of mutton and rabbit meat is very small.

Proportion of the households that consumed rabbit meat as well as intention of the households that didn't consume rabbit meat but will consume it in the future

Several findings are as follows:

First, as shown in table 2, the proportion of the households that consumed rabbit meat during 2011-2015 increased considerably, increasing from 36.1% in 2011 to 49.8% in 2015. The households, which did not consume rabbit meat and at the same time stated their intention of consuming it in the future, accounts for more than 40% of the households that didn't consume rabbit meat. The results indicate that the situation in the consumption of rabbit meat has improved appreciably, suggesting that there is a potential for rabbit meat consumption to keep growing in the future.

Table 2. Proportion of the households that consumed rabbit meat as well as intention of the households that didn't consume rabbit meat and stated to consume in the future during 2011-2015 in urban China (%)

	2011	2012	2013	2014	2015
Proportion of the households that consumed rabbit meat	36.1	38.6	44.5	46.3	49.8
Intention of future consumption	40.6	44.0	53.8	43.5	40.1

Data source: calculated from the datasets of sample surveys during 2011-2015.

Second, as shown in the data, there are 38.3% of the respondents who demonstrated a positive attitude to the consumption of rabbit meat, less than 15% of the respondents who had a negative attitude to rabbit meat consumption, and nearly half of the respondents who were indifferent to rabbit meat consumption. The results suggest that consumers are not averse to rabbit meat while they didn't understand the nutrition and health value of rabbit meat which led to low consumption of rabbit meat in current China.

Finally, what are the barriers in the rabbit meat consumption? As shown in table 3, "have no habit of eating rabbit meat" and "lack of knowledge of rabbit meat" are the main factors in influencing consumers to eat rabbit meat. Moreover, "don't like tastes of rabbit meat", "inconvenience to buy", and "can't cook" are also the barriers for impeding the rabbit meat consumption. Actually, the data show that only a few consumers refused to eat rabbit meat because of the "price is expensive", or "fewer species of rabbit meat", or "have no nutritional value." Thus, the results indirectly suggest that the consumers know little about rabbit meat.

Table 3. Barrier of consumption of rabbit meat during 2011-2015 (%)

	2011	2012	2013	2014	2015	average
Lack of knowledge of rabbit meat	32.1	40.1	41.9	42.8	32.0	37.8
Not available or inconvenience to buy	17.0	17.8	29.8	24.3	27.7	23.3
Price is expensive	6.1	5.9	9.3	5.9	7.9	7.0
Don't like the taste of rabbit meat	31.8	33.0	17.1	18.9	21.9	24.5
Fewer species of rabbit meat	1.9	4.3	5.4	1.8	4.0	3.5
Can't cook	17.1	21.0	26.0	18.5	26.3	21.8
Have no habit of eating rabbit	50.7	51.0	58.5	64.0	55.8	56.0
Have no nutritional value	0.3	0.6	4.7	2.3	0.1	1.6

Data source: calculated from the datasets of sample surveys during 2011-2015.

Frequency on the rabbit meat consumption

In general, the frequency of rabbit meat consumption is very low in urban China. Results of the surveys show that about 2/3 of the respondents have eaten rabbit meat once a quarter or longer period of time. The consumer behavior did not change decidedly during 2011-2015, suggesting that most consumers are only the one-off adopters of rabbit meat and, thus, only few consumers treat rabbit meat as a substitute for other meats.

Proportion of types of rabbit meat consumed

Results of the surveys show that the respondents mainly bought “fresh meat” and “bulk cooked meat” that cooked at-home and only 1/4 of the respondents has ever bought “packing meat and processed products.” The “higher price” and “loss of the original taste in the processing” are attributable to the above-mentioned results. In addition, results of the surveys show that rabbit meat is usually bought for at-home consumption and very few bought rabbit meat as a gift.

The main places and brand choices for consumers to buy rabbit meat

Results of the surveys show that respondents mainly ate rabbit meats in “featured rabbit meat restaurant” and “delicatessen shop,” followed by “hot-pot restaurant.” In addition, respondents who bought rabbit meat for at-home consumption are mainly from supermarkets, farmers' markets, and fixed retail sales department, while wholesale markets and small traders are not popular places for purchasing rabbit meat mainly due to food safety consideration. For brand of rabbit meat, the majority of respondents did not choose the fixed brand of rabbit meat, suggesting that the brand has no impact on the consumption of rabbit meats.

Cognition of nutrition and health attributes of rabbit meat

In general, respondents lack adequate knowledge of the nutrition and health values of rabbit meat. The respondents who “know” and “fully know” of the nutrition and health values of rabbit meat account for 23.5%, while the proportion of respondents who “don't know” and “have no idea” is more than 50%. From the point of view of nutritional attribute of the rabbit meat, the “rabbit meat contains higher protein content” and “rabbit meat contains low fat” are known to a larger number of respondents, whereas the respondents have little knowledge about the “rabbit meat’s digestive rate is high” and the “rabbit meat is low in content of cholesterol.”

Table 4 reports the consumer’s evaluation on the attributes of rabbit meat from 2013 to 2015. The results show that the consumers pay more attention to freshness, taste, and quality and safety of rabbit meat that should not have chemical addition and have passed the quality certification, when they made their food purchase. Nevertheless, the respondents seldom attach importance to the price, appearance, brand, and nutrition of rabbit meat. More specifically, the consumers pay more attention to the low fat, low cholesterol, and high protein attribute within in a variety of nutritional values of rabbit meat.

Table 4: The evaluation of the importance of the attributes of rabbit meat by respondents (2013-2015) ^a %

year	Price	Appearance	Freshness	Low calories	High amino acids	High protein	High digestive rate
2013	3.5	3.2	4.3	3.4	3.5	3.7	3.6
2014	3.3	3.1	4.2	3.4	3.4	3.6	3.5
2015	3.2	3.1	4.2	3.3	3.3	3.5	3.4
year	Taste	Brand	Tenderness	Low fat	Product certification	Low cholesterol	No chemical additions
2013	4.1	3.3	3.7	3.7	3.9	3.6	4.2
2014	3.9	3.3	3.7	3.6	3.9	3.7	4.2
2015	4.0	3.0	3.8	3.5	3.8	3.6	4.3

Data source: calculated from the datasets of sample surveys during 2011-2015.

^a 1-5 represented not important, not very important, average, important, very important. The indexes are included in the questionnaire from 2013.

CONCLUSIONS

The main conclusions are derived as follows. First, the rabbit meat consumption in general in urban China accounts for a very small portion of total meat consumption, with the percentage of rabbit meat to total meat being less than 1%. Moreover, the frequency of rabbit meat consumption is still low and also has no significantly increasing trend during 2011-2015, suggesting that the rabbit meat lacks long-term attraction. However, the demand for rabbit meat has improved in recent years and is expected to continue to rise. According to the data from the surveys, more than 50% of respondents stated that they have consumed the rabbit meat, while close to 50% of the respondents who never ate rabbit meat stated that they would eat rabbit meat in the future.

Second, the barriers of rise in the rabbit meat consumption are composed of low cognition of nutrition attributes of rabbit meat, lack of cooking skills for rabbit meat, as well as inconvenience in purchasing the meat. Results of the surveys show that only less than 1/4 of the consumers knew the nutrition and health attribute of rabbit meat, which are only limited to the “low fat”, “low cholesterol”, and “high protein” values of rabbit meat. As shown in the surveys, consumers mainly bought the rabbit meat for at-home consumption, but lack of cooking skill lead to unattractiveness of the meat. Furthermore, rabbit meat are not sold so widely like other meat that consumers need taking time to acquire the rabbit meat, which lowered the meat consumption.

Finally, as shown in the surveys, respondents attached great importance to freshness, taste, and quality and safety of rabbit meat when they bought rabbit meat. As a result, the majority of the respondents chose the supermarket, farmers’ market, and retail department as their main shopping places.

The results above have an important implication for promoting rabbit meat consumption in the future. First, strengthening the publicity of the health value of rabbit meat can change consumer’s cognition and perception of rabbit meat. Second, promoting the cooking skills of rabbit meat in the sales process can increase the purchase of rabbit meat. Finally, improving the brand construction of rabbit meat, ensuring the quality and safety of rabbit meat, and developing the rabbit meat products that are suitable for local consumption culture and habits can promote the stable long-term development of the rabbit meat market.

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Consumer Demand for Rabbit Meat in Urban China: 2011-2015

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INTRODUCTION

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