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## “Chevre meat” (goat meat) impressions and taste responses by Japanese

T. OZAWA, J. NISHITANI AND H.T. BLAIR<sup>1</sup>

Department of Animal Science, Nippon Veterinary and Animal Science University, Tokyo, 180-8602 Japan

### ABSTRACT

To investigate the strong prejudice against goat meat and to assist with promoting goat meat consumption in Japan, a taste-test survey and two questionnaire surveys were carried out amongst 30 university students. A pre-questionnaire survey was undertaken before the goat meat was tasted to understand the first impressions of the meat. Three different goat meat dishes (simmered meat and potatoes, goat casserole and sweet and sour goat) were served for taste evaluation. The results from this survey suggested that goat meat should be rebranded before embarking on a promotional campaign in Japan. “Chevre meat” has been chosen as a new term to promote goat meat. The phonological phrase “goat” in Japanese is not appealing to the Japanese consumer. Instead of using the Japanese word for goat, “chevre” (which in French means goat) is suitable for promotion. Combining the French and English words together as “chevre meat” sounds attractive to the Japanese consumer. Attaching an attractive recipe card to the chevre meat package will help consumers to understand how to prepare goat meat. Based on these results, a New Zealand exporter has undertaken to ship a New Zealand goat meat sample to Japan beginning in late 2005.

**Keywords:** goat; meat; marketing; Japan

### INTRODUCTION

Goats are widely distributed around the world, and their meat is lean with favourable nutritional qualities (Webb *et al.*, 2005). In Japan, the dairy goat industry has been growing recently due to increased demand based on the healthy characteristics of liquid milk, yogurt and other dairy goat products (e.g. soap, milk powder.). On the other hand, goat meat demand and consumption is limited to specific regions such as Okinawa and some islands in Kyushu (Shinjo, 1999). Ozawa *et al.* (2004) reported that there is a strong prejudice against goat meat smell. Their questionnaire survey among Japanese households, demonstrated the existence of a latent demand for goat meat. They also showed, through goat meat sensory analysis, that the highest grade of cuts like loin and fillet are preferable to Japanese youth and suggested the advantage of shipping these cuts of goat meat from New Zealand to meet the future demand in Japan (Ozawa *et al.*, 2005b). Based on this information, Ozawa *et al.* (2005a) suggested goat meat should be marketed through supermarkets, but that it would be necessary to provide Japanese-style goat recipes to assist the sale of this novel meat to new consumers.

The objective of this paper is to explore methods of promoting goat meat to Japanese consumers based on cuisine taste testing and consumer feedback.

### MATERIALS AND METHODS

A cuisine taste survey was carried using thirty students (13 male, 17 female, both 20-year-old average) from the Nippon Veterinary and Animal Science University. The goat meat sample used for the cuisine was from a castrated 8 month old Japanese Saanen raised at Nagano National Livestock Breeding Centre. It was slaughtered on 10 December 2004 and brought to a local butcher for dressing. Dressing of the carcass occurred on 15 December after storage at 5 Celsius for aging. The hind leg meat was cooked for this cuisine taste survey. The meat was placed into “cooking rice wine” for 20 minutes to remove the goat odour before cooking. Three typical Japanese home cuisines (“sweet-and-sour goat”, “hashed goat” and “simmered meat and potatoes”) were cooked and served to the participants. In Japan, pork is mainly used as “sweet-and-sour pork”, while beef is usually prepared as “hashed beef” or “simmered beef and potatoes”. Each of the 3 dishes were served as a 100g serving to the participants. The order of tasting each cuisine was decided by each participant, but they were required to rinse their mouth with mineral water between each dish. An ordinary lecture room was used as a testing room, but all the windows were covered by blackout curtains to prevent natural light, but fluorescent lighting was present.

Questionnaire surveys were carried out before (pre-test) and after (post-test) the cuisine

<sup>1</sup> Institute of Veterinary, Animal and Biomedical Sciences, Massey University, Palmerston North, New Zealand

tasting to gain an impression each goat meat dish. The contents of pre-test questionnaire focused on eating experience of goat meat. The post-test questionnaire checked the preference of goat meat cuisines and buying motivation of goat meat by the participants.

**RESULTS**

The result of questionnaires and the taste test by the university students are summarised in table 1. Only five students (17%) had ever consumed goat meat before. Two of these students (40%) had eaten goat meat again, while the other 3 did not eat goat meat again because of undesirable smell of the meat. Of those who had not eaten goat meat before, 68% showed an interest to eat goat meat. The main reason of wanting to eat goat meat was their curiosity to try an unknown product. But those who do not wish to eat goat meat, in spite of having no prior eating experience of goat meat, answered that “goat meat seemed smelly” or “did not look delicious”.

The two most preferred goat cuisine were “sweet-and-sour goat” (47%) and “hashed goat” (43%), while “simmered meat and potatoes” was the least preferred.

Ninety-three percent of participants showed their willingness to eat goat meat again after the taste test. Although, according to the pre-test questionnaire survey, 19 students did not want to eat goat meat. However, after the tasting test, only one participant persisted in stating that they would not eat goat meat again.

Over one-half (57%) of the participants replied that if goat meat was sold cheaper than beef, pork and chicken at local supermarket that they would buy it. About one-third (30%) of them answered that they would buy goat meat if it was sold at the same price as the other meats. Only 10% of the participants answered that they would not buy goat meat whatever the retail price was. No participants answered that they would buy goat meat if it was more expensive than the other meats.

**DISCUSSION**

**Acceptance of goat meat cuisine to Japanese youth**

The visibility of goat meat cuisine in Japan, according taste test participants is very low. However, 68% of participants who had never eaten goat meat before indicated their interest in eating goat meat because of their curiosity. This indicates a likely underlying demand for goat meat amongst young Japanese consumers. “Sweet-and-sour goat” and “hashed goat” were the preferred dishes by the

**TABLE 1: Summary of "Pre" and "Post" testing survey result participants.**

Total number of participants	30		
Percentage of female	(57%)		
Age of examinee	mean 20.2		
	sd 1.1 year		
<b>The summary of pre-tasting questionnaire survey</b>			
1) Have you eaten goat meat?			
Yes	17%		
No	83%		
2) If "Yes", would you like to eat it again? Describe the reason. n=5			
Yes	40%		
	It was bit smelly, but don't care.		
No	60%		
	Too smelly to eat.		
	Awful smell.		
3) If "No", would you like to eat goat meat? n=25			
Yes	68%		
No	32%		
<b>The summary of post-tasting questionnaire survey</b>			
1) Rating of taste of the cuisines. n=30			
	First rating	Second rating	Third rating
Sweet-and-sour goat	47%	43%	10%
Hashed goat	43%	43%	13%
Simmered meat and potatoes	10%	13%	77%
2) Would you like to eat goat meat again? n=30			
Yes	93%		
No	7%		
3) If goat meat were sold at the local butcher, would you like to buy it? n=30			
Yes, even though the price were more expensive than beef, pork or chicken			N.A.
Yes, if the price were same price as beef, pork and chicken			30%
Yes, if the price were cheaper than beef, pork and chicken			57%
No, never			13%

This result most likely reflects two points regarding goat meat. Firstly, goat meat is not suited to bland cuisine such as “simmered meat and potatoes”, and this dish will reflect the taste of the constituents. Secondly, deep fried or simmered cuisine that uses adequate seasoning, such as occurs with “sweet-and-sour goat” or “hashed goat” dishes, are more preferred by the participants.

While a significant proportion of the participants did not wish to eat goat meat prior to tasting it, only one person still did not wish to eat the meat following consumption of the meat. Clearly, the impression of goat meat was changed by tasting the three different cuisines. A large majority of the participants were prepared to eat goat meat again, if it was sold cheaper than beef, pork or chicken, while a significant number (about 1/3) would purchase goat meat if it were the same price as beef, pork or chicken. While these results might suggest it is desirable to price goat meat to be cheaper than the other main meats, Ozawa et al (2004) pointed out that even a small penetration of the Tokyo market will require a rapid upscaling of local production as well as the importation of goat meat from producers such as New Zealand to cover production shortfalls in the immediate future. Thus it would seem possible to price goat meat at similar values to beef, pork and chicken.

**Cultivation of the goat meat market in Japan**

To facilitate the acceptance of goat meat by Japanese consumers, at least four issues need to be addressed: promoting the nutritional benefits of

goat meat; changing the name of goat meat to chevre meat; presenting a recipe card to the consumer, and establishing a supply chain to meet future demand.

#### 1) Promoting the nutritional benefits of goat meat

Goat meat has a high protein content, including a high content of linolic acid which reputedly assists in the prevention of adult diseases such as hyperlipemia. Goat meat is also higher in protein and linolic acid than both beef or mutton (Resources Council, 2000). Moreover, goat meat is a good source of iron. Iron is one of the important limiting nutrients, especially for woman. The consumption of just 100g of goat meat can satisfy one-third of daily iron requirements (4.5mg/100g). Table 2 shows that 955KJ less energy is consumed for a standard serving of “hashed goat” than for the same sized serving of “hashed beef”. This could be an important consideration for people wanting to reduce their dietary energy intake. Promoting goat meat as a “nutritious and healthy meat” to the Japanese consumer will likely be most effective.

**TABLE 2:** Energy difference between “Hashed Goat” and “Hashed Beef”

Name of ingredient Unit	Energy KJ/100g	Serving(quantity) g	Serving(energy) KJ
Goat hind leg meat	448	75	336
Beef shoulder meat	1,721	75	1,291
Onion	155	62	96
Hashed stew paste	2,144	25	536
Canola oil	3,856	7	270
		Goat meat use (A)	1,238
		Beef use (B)	2,192
		Difference (B-A)	<b>+955</b>

Japan Food Composition Table (5th edition)

#### 2) Changing “goat meat” to “chevre meat”

Ozawa et al. (2004) found that the Japanese consumer impressions of goat meat are “smelly” and “not delicious”. These negative feelings mainly come from the image of the Japanese words “Yagi Niku” (goat meat). Therefore to eliminate the negative image of goat meat from “Yagi Niku”, a new term is necessary for promotional activities. It is suggested to use “chevre meat” instead of “Yagi Niku”. The word “chevre” means goat in French and the addition of the English word “meat” after it sounds attractive to the consumer. Cheese-eaters can easily recognise the product as goat meat, because they are familiar to french goat cheese, Chevre. Also the new product name will arouse consumer’s interest to an apparently unknown meat. The Nippon Veterinary and Animal Science University has applied to have this name registered as a brand of goat meat to the Patent Agency (Application Number 2005-42767).

#### 3) Presenting a recipe card to consumer

In Japan, many retail shops publish recipe cards for free to promote their products. Consumers are more prepared to purchase a new food product if a detailed recipe card is provided to assist their cooking preparation.

#### 4) Establishing a supply chain to meet future demand

There is very limited number of meat goats in Japan making it difficult to meet future demands if chevre meat achieves even a small penetration of the Japanese meat market. But the New Zealand goat industry has an opportunity for shipping branded “chevre meat” to satisfy the demand in Japan (Ozawa et al., 2005). Establishing a stable supply chain is critical, not only for obtaining market credibility, but also to ensure consumer loyalty to goat meat. New Zealand goat meat farmers may have a great opportunity to supply the Japanese market, especially by focusing on “New Zealand Chevre Meat”.

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