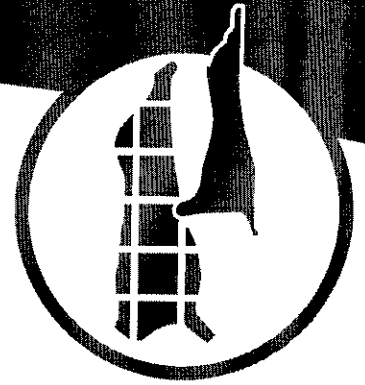


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Development of processed beef for the Japanese market results of meatball tasting M.189

Prepared by:
Colonial Farm Pty Ltd

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MEAT & LIVESTOCK
A U S T R A L I A

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EVALUATION OF MEATBALLS

EXECUTIVE SUMMARY

A survey was undertaken on beef meatballs with tasting by Japanese housewives in Australia. The main results of this survey indicate:

- The latest batch of meatballs produced by Colonial Farm are a marked improvement over the previous one in terms of taste. We now believe that if this taste level can be maintained, there is a potential for introducing them to the Japanese market.
- On issues other than taste, there is room for some improvement.
- The meat should be ground finer, the texture should be smoother and the structure of the meatball more open.
- The meatballs should be slightly larger, rounder in shape and darker in colour, particularly if the bento market is to be targeted.
- While 100% beef could be a selling point, there needs to be some exploration of how the structure of the meatball can be opened up with additives, while still retaining the 100% beef meat label.
- The meatballs should be formulated for deep frying to achieve a crisp outside and juicy inside. Careful attention will have to be paid to the oil used.
- The development of sauces should take place in Japan, but if a market is found, it is possible that sauces could later be made in Australia to a Japanese formulation. At present, no effort should be given to the development of sauces to match the meatballs.
- Further development is required, but before this is started, contacts need to be made with potential processors/distributors in Japan to assess the extent of market interest and access. This will be done by M. Venning in consultation with Colonial Farm. Some indication should be gained before the end of October, and on the basis of this, a decision can be made on whether to proceed.

1. INTRODUCTION

The Meat Research Corporation and Colonial Farm (Aust.) Pty. Ltd. are working together to develop processed beef products for the Japanese market and initial development has concentrated on the assessment of beef meatballs.

In February 1992, The Corporation sought my views on the MRC project and arranged for Colonial Farm to send two samples for testing. These samples were tested with Japanese and a report was produced for consideration by the MRC and Colonial Farm (Appendix 1). The general conclusions from this report were:

- The product concept was interesting but required considerable thought as to the market niches, market sizes and the funds which should be spent to develop products for these markets;
- Further development of the product was required in terms of taste, texture and appearance;
- Further development of the packaging was required taking into account shipping, on-processing and final presentation in the various target market niches;
- One of the major keys to successful product development and market penetration would be the choice of agent for targeting of the Japanese market.

In April, Sensory Market Analysis & Research Technology Pty Ltd. also presented a report on the meatballs which indicated that further development was required.

In August, Colonial Farm indicated that it was interested in proceeding with the next phase of development of the meatball product and arrangements were made for a tasting of meatballs using about a dozen Japanese housewives living in Melbourne. There was some discussion as to the method of the tasting and how the meatballs would be prepared. It was agreed that the meatballs should be smaller and have a looser texture. Three batches of meatballs would be made using ground beef and three sets of spices provided by Griffith's from a Japanese subsidiary would be incorporated. The meatballs would be boiled rather than grilled to ensure a looser texture and to assist in the eventual penetration of the sauces to be used with the meatballs. Two sauces were to be prepared to go with the meatballs as part of the tasting process. One of the sauces would be prepared by Colonial Farm and the other by a Japanese housewife.

The tasting was held on 8 September and this report covers the results of this tasting.

2. OBJECTIVE OF THE TASTING

The objective of the tasting was to improve our understanding of Japanese consumer expectations for processed food with particular reference to beef meatballs. In addition, the tasting was to explore Japanese housewives' perceptions of the Colonial Farm meatballs and to determine what opportunities or products could be developed from the meatballs.

3. APPROACH

Meatballs were prepared by Colonial Farm and coded A, B or C according to the Japanese spices used in the mixture. Meatballs were made from ground lean beef and spice and then hand moulded before cooking in boiling water. The meatballs were then frozen for subsequent visual inspection or chilled for eventual cooking at the tasting.

For the tasting, thirteen Japanese housewives living in Melbourne were invited to a private home. Most have been living in Australia for less than two years and have retained their Japanese palate. (While the numbers are not large, we believe that they are sufficient and cost-effective to determine Japanese taste attitudes towards the product. Unlike standard western testing procedures, tasting was done in a communicative atmosphere with external influences. This enables the tasters to express their views out loud and provide some form of discussion and consensus creation. Our experiences suggest that larger numbers of tasters would not provide a greatly different result.)

The questionnaire presented to the housewives was in Japanese and covered four aspects. These were:

- (1) The background of the taster and her attitude towards meatballs;
- (2) Assessment of the frozen product;
- (3) Assessment of the cooked products presented without a sauce;
- (4) Assessment of the cooked products served with two different sauces.

(The questionnaires in English and Japanese are in Appendix 1.)

4. SURVEY RESULTS

4.1 Background of tasters surveyed

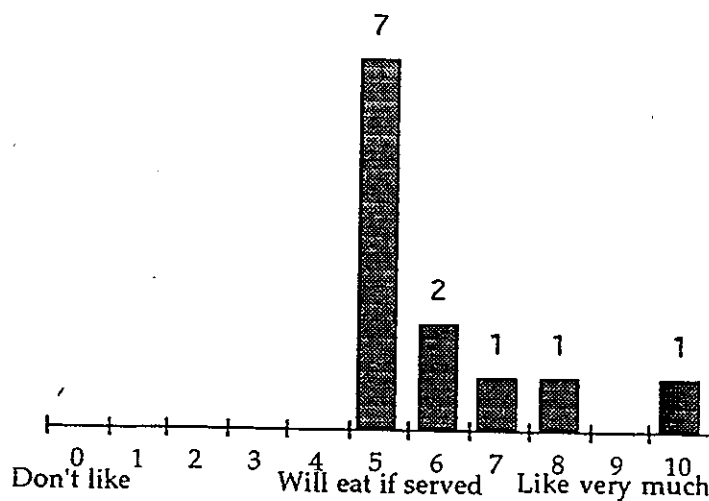
The initial section of the questionnaire sought information on the taster's background in Japan, in case any taste preference should be associated with regional characteristics. (Some areas of Japan are associated with beef consumption, other with a preference for pork or chicken.) The results were as follows:

Region	Number	
	Birth Place	Domicile
Tokyo	3	5
Aichi Pref.(Nagoya)	3	3
Near Tokyo	2	3
Kyushu(South)	3	1
Wakayama Pref.	1	1
Nara Pref.	1	-

Comment: From this tasting session, we were unable to discern any regional differences.

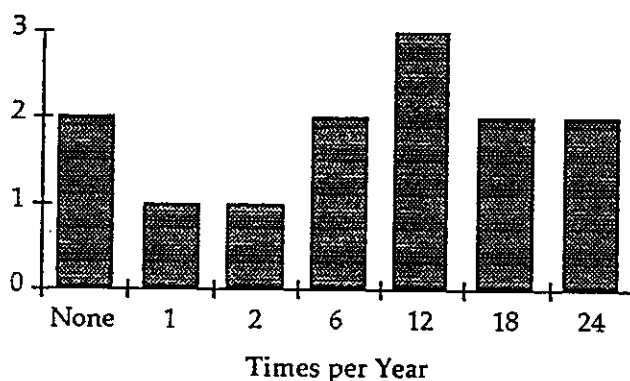
4.2 Attitudes to Beef Meat Balls

As can be seen, a majority of the tasters were indifferent to beef meat balls, with the remainder having varying preferences. None of the tasters expressed a dislike of meatballs.



4.3 Frequency of Eating

As can be seen from the data, four of the respondents seldom eat meatballs, and seven indicated that they eat them once a month or more.



4.4 Meat Ball Preference

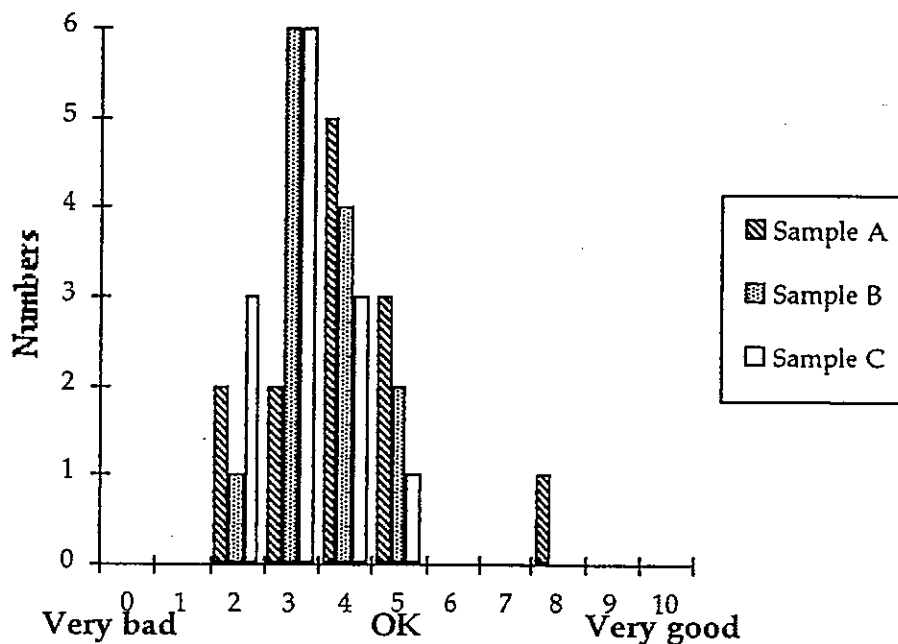
The tasters gave more than one response to this question. There seemed to be an even preference for either pure beef or beef/pork meatballs. There was no interest in lamb meatballs and one of the tasters who expressed no interest in beef meatballs indicated a preference for chicken meatballs. Of those tasters having the lowest frequency of meatball use, almost all expressed a preference for pork/beef meatballs over 100% beef.

Few reasons were given for a preference for 100% beef. Two preferred the taste, one liked the lower fat content, one liked the softness, one liked the lack of odour and one supported 100% beef because of its authenticity.

Of those preferring the beef/pork mixed meatball, three tasters preferred the taste and two found that 100% beef meatballs were too dry.

4.5 Appearance of Frozen Samples

As can be seen from the results on the following page, none of the samples was considered to have a satisfactory appearance, and the average score was around 4 for all samples, although sample A was slightly higher. When reasons were sought for the scores given, the tasters indicated more or less the same comments for samples A, B and C. Four or five tasters commented on the poor or lumpy shape and two or three commented on the small size. Other comments were that the meatballs looked tough, like dog food or were not appetising.



As regards the colours of the samples, Sample B was commented on positively by almost all of the tasters (11/12), Sample A was regarded positively by more than half (7/12), and Sample C was regarded in a negative way (4/13 indicating acceptance), due to the pale unappetising colour.

As regards the size of the meatballs, three tasters felt that the meatballs were the right size, six felt that they were slightly too small and four that they were too small. Some commented that slightly larger meatballs would be ideal for bento, a lunch box meal widely distributed to schools, businesses and public places.

4.6 Cooking Methods

The survey indicated several preferences for cooking.

Cooking Method	Number of Responses		
	1st Preference	2nd Preference	3rd Preference
Deep fry	1	-	1
Deep fried then add sauce	1	5	-
Deep fried then stir fry	1	1	1
Boiled with sauce	1	1	-
Casserole (nabe)	6	-	-
Sweet and sour	1	-	1
Spaghetti	-	-	4
Soup	1	2	3
Microwave and stir fry	-	2	-

Nabe or Japanese casserole was the first to come to mind, but overall, deep frying was the most widely considered.

4.7. Tasting of Samples without Sauce

In general, the tasters found the boiled meatballs to be weaker in flavour and softer in texture than the microwaved samples which they found to be too hard.

The following table summarises the comments on the boiled samples.

Comment on boiled product	Sample A	Sample B	Sample C
Good taste	5	-	-
No taste/bland/watery	1	4	6
Slightly strong taste	2	-	-
Too spicy	-	-	2
Spicy	2	1	3
Salty for adults	1	-	1
Not salty enough	-	1	-
Salt level acceptable	-	1	-
Too sweet	-	5	1
Slightly sweet	-	1	1
Colour not good	2	-	-
Texture			
soft	3	2	2
OK	1	2	-
dry	1	1	1
crumbly	2	2	2
binding OK	1	1	3
smooth	1	-	-
rough/coarse	5	5	7
slightly hard	1	1	1
hard	2	2	2

As a general comment, Sample A was preferred to the other samples in taste, but almost all found that the texture of the meatballs was not homogeneous and the particle size was too large (meat texture rough).

We also found from our own tasting that there was some variability in the taste of the meatballs indicating that the spice was not thoroughly mixed in with the meat. The variability of responses on taste also seemed to back this up.

Comments on the microwaved meatball samples are summarised below.

Comment on m/waved product	Sample A	Sample B	Sample C
Good taste	5	1	4
No taste/bland/watery	-	-	1
More meat flavour than boiled	-	1	-
Salty	2	-	-
Slightly salty	-	-	1
Not salty enough	-	-	1
Too spicy	-	-	1
Spicy	2	1	4
Hot, peppery	-	-	2
Sweet	-	5	1
Colour OK	1	1	1
Dry	2	2	1
Texture			
OK	-	1	1
very hard	7	6	1
slightly hard	1	1	4
crumbly	2	2	2
rough/ coarse /lumpy	1	4	5
binding OK	1	1	1
chewy	-	-	2

As with the boiled samples, A was slightly favoured and B the least. While there was more taste in the microwaved meatballs, they were noticeably tougher and this was the major criticism from the tasters.

4.8 Appropriateness of Sauces

Three quarters or more of the tasters felt that the meatballs should be eaten with sauce. The taste of Sample B in particular was so weak that all felt that this needed to be served with a sauce.

Sauces suggested for the various samples are listed below.

Sauce	Sample A	Sample B	Sample C
Tomato sauce	4	3	3
Soy sauce	2	1	1
Worcester sauce	-	1	-
Sweet & sour	-	2	-
Demiglas sauce	1	1	1
Mushroom & tomato	1	1	1
Curry	-	1	1
Oyster sauce	-	-	1
Chilli sauce	-	1	-
Spicy sauce	-	1	-
Light sauce	-	-	1
Chinese sauce	-	1	-

As can be seen, a tomato or Italian style sauce would generally be chosen for the meatballs, followed by a soy-based sauce.

4.9 Assessment of Sauces

Two sauces were tried with the meatballs. The two sauces were made by Colonial Farm and a Japanese housewife.

Colonial Farm's sauce contained soy sauce and honey. Almost all of the tasters found it too sweet for their taste.

The Japanese sauce contained tomato sauce, vinegar and other minor ingredients. It was found to be more acceptable, though slightly too sour.

Generally speaking, neither of the sauces was acceptable.

4.10 Suggestions for Improvements

From the survey results and from subsequent discussions with the tasters, the following points were made:

- Meatballs are not very popular among adults except in some home dishes where both the meatballs and the accompanying sauce are home-made. The main opportunities for meatballs would be for inclusion in bento (lunch boxes for children, office workers or travellers) or for finger food for children attending local fast food restaurants with their parents. In this case, the meatballs could be imported, but the sauce would be made locally.
- The taste of the meatballs was very acceptable, but they were too tough, of coarse texture and too dry. Various suggestions were made for improvement including the addition of pork for taste, moisture and texture reasons and the incorporation of vegetables. The aim would be to achieve a meatball which is looser in structure than the current 100% beef meatballs, is crisp on the outside and moist on the inside and oozes juices during eating.
- The tasters agreed that 100% beef label would be a good selling point but some also saw the problems of dryness with 100% beef. They suggested the incorporation of non-meat additives to soften the meatball while still maintaining the label of 100% beef.
- A common view was that the balls need to be smoother in appearance and that the texture needed to be finer. There was also concern about the redness of the meat on the inside of the meatballs. This also supports the need for a looser textured meatball to allow more thorough internal cooking, say by deep frying.

5. CONCLUSIONS

A survey was undertaken on beef meatballs with tasting by Japanese housewives in Australia. The main results of this survey indicate:

- The latest batch of meatballs produced by Colonial Farm are a marked improvement over the previous one in terms of taste. We now believe that if this taste level can be maintained, there is a potential for introducing them to the Japanese market.
- On issues other than taste, there is room for some improvement.
- The meat should be ground finer, the texture should be smoother and the structure of the meatball more open.
- The meatballs should be slightly larger, rounder in shape and darker in colour, particularly if the bento market is to be targeted.
- While 100% beef could be a selling point, there needs to be some exploration of how the structure of the meatball can be opened up with additives, while still retaining the 100% beef meat label.
- The meatballs should be formulated for deep frying to achieve a crisp outside and juicy inside. Careful attention will have to be paid to the oil used.
- The development of sauces should take place in Japan, but if a market is found, it is possible that sauces could later be made in Australia to a Japanese formulation. At present, no effort should be given to the development of sauces to match the meatballs.
- Further development is required, but before this is started, contacts need to be made with potential processors/distributors in Japan to assess the extent of market interest and access. This will be done by M. Venning in consultation with Colonial Farm. Some indication should be gained before the end of October, and on the basis of this, a decision can be made on whether to proceed.

APPENDICES

MEAT RESEARCH CORPORATION

Preliminary Report on Development of Processed Beef for the Japanese Market

28 February 1992

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MELBOURNE Victoria
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1. INTRODUCTION

On 14 February, Mr R. Tedesco, a consultant with the Meat Research Corporation, sought my views on the MRC project to develop beef meat balls for the Japanese market and arranged for Colonial Farm to send two samples for testing. The two samples, with and without Italian sauce, were delivered that afternoon and were tested with a colleague Dr T. Yukawa and his wife that evening. Dr Yukawa has lived in Australia for twenty years and during that time has been looking for Australian products which would be appropriate for the Japanese market.

In our assessment, we have critically evaluated the presentation of the product, then the taste and finally, there is some discussion of the relevance of the product to Japan, the market considerations and other issues that the Corporation might wish to consider in developing Japanese markets for this product.

Our general conclusions were:

- The product concept is an interesting one and requires considerable thought as to the market niches, market sizes and then the funds which should be spent to develop products for these markets
- Further development of the product is required in terms of taste, texture and appearance
- Further development of the packaging is required taking into account shipping, on-processing and final presentation in the various target market niches
- One of the major keys to successful product development and market penetration will be the choice of agent for targeting of the Japanese market.

The following comments are made with the acknowledgment that the sample product sent was at an early stage in the development process and that little consideration was given to Japanese style packaging. Furthermore the comments are made only with a view to striving for the best possible product to meet what we feel are the needs of the Japanese consumer.

2. APPEARANCE

We do not think that the name Colonial Farm would be appropriate for the Japanese market. It is very likely that the eventual agent in Japan will suggest the most appropriate brand and product names for the various niche markets selected.

Packaging will have several requirements:

- (1) Meatballs should not be visible to the buyer. It is better to have a picture of the product on the package
- (2) Packaging must meet JAS or Japan Agricultural Standards eg ingredients will need to be specified
- (3) We would question whether MAP is the most appropriate packaging for this product. One problem with the current packaging is the large package volume relative to the volume of food contained. Alternative packaging should be considered such as vacuum packs, retort pouches or cans which are more compact. Also packaging should be appropriate for microwave cooking
- (4) It was not clear to us whether the meat used in these meatballs is of high quality or produced from offcuts. The quality of beef needs to be indicated.
- (5) Any external packaging of the product needs to emphasise the key issues of health and quality. Price is not a major selling factor.
- (6) It was not clear to us how the product is to be sent to Japan. Will it be frozen or chilled? Will it be sent by air or sea freight? Answers to these will greatly influence packaging decisions.

As to the meatballs themselves, we have made the following comments:

- (1) Burn marks were noted on some meatballs. These marks are a negative for presentation of meatballs without sauce, but perhaps, to Japanese perceptions, give a feeling of authenticity to meatballs in sauce.
- (2) Meatballs are slightly too large. For Japanese usage and for Japanese mouths (particularly children's mouths), the meatballs should be 20-40% smaller.
- (3) When meatballs were microwaved and broken open, they appeared to be under-cooked in the centre. Is this intentional?

3. TASTE

The taste generally was found to be acceptable, but impressions varied during the tasting. In some situations or market niches, the taste may be considered too strong and thought may have to be given to incorporating extenders to soften the product, lower the input cost and reduce the overall flavour.

The incorporation of herbs into the meatballs was noticed. This may restrict the range of applications of the meatballs to only a few dishes. For example, Japanese incorporate cubes of beef in their Japanese style stews (nabe) but it is unlikely that they would want meatballs having a particular or distinctive taste.

The tomato sauce in the sample is not appropriate for Japanese tastes. The sauce will need to be true Italian style, a Japanese-Italian style or some other Indian- or Chinese-influenced style such as curry or sweet and sour.

As noted above, the meatballs seemed a little tough and underdone in the centre. In preparing the meatballs and their packaging, consideration will need to be given to how the meatballs will be on-processed by the consumer eg by microwave or placing in hot water etc.

Some comments were made on the texture eg texture is similar to the papery feeling you get with MacDonaldis hamburgers in Australia. To a Japanese mind this raised questions about the quality of the beef and whether some enzymic digestion technique could reduce this papery texture and tenderise the meat.

4. CONCEPTS AND MARKETS

It was felt that the concept of meatballs was a very interesting one which in Japanese parlance can have either a negative or positive connotation. While there was a positive attitude to the product, Dr Yukawa and his wife found it hard to visualise how cooked beef meatballs could be used in Japanese cooking.

With relatively low fat content, beef meatballs tend to be dry compared with the pork or chicken meatballs used in standard Japanese foods such as Yakitori (grilled chicken on skewers) and Nabe (stews). Pork and chicken meatballs are more often used in Chinese cooking in Japan. It is possible that meatballs may find a niche in the Chinese restaurant market as minced beef or beef/pork meatballs are already being used. For example, one Chinese dish liked by the Japanese is Mabohdohfu which is a thin stew of Tohfu and beef mince with chillies. Incorporation of small meatballs instead of the mince could be an improvement.

There was a general perception that it would be easier to sell meatballs in sauce than meatballs without sauce. However, with both products, it would be hard to present them to adults as a novel product. Possibly the most appropriate market sector would be food for children. This area has expanded considerably in the last decade with a lot of very novel dishes being developed which have not been held back by the traditional taste perceptions of adults.

With the above in mind, we considered five possible market sectors:

1. **Family restaurant** in the suburbs eg Skylark franchise. Product would be sold in bulk with the sauce included. Perhaps a canned product would be preferable to MAP as the product could be kept outside and the canning process would soften the meat. Neutral flavour of the meat will be important. The product will be targeted specifically at the children's food market. The meatballs would be served on a plate with shredded cabbage together with some garnish.
2. **Small family packs** on sale at local supermarkets. Packs would need to be half of existing size ie 10cm x 10cm and shallower. Pack's contents would need to meet the needs of two or three persons ie mother and one or two children. Presentation would be as with 1. above.
3. **Meatballs** for incorporation into nabe or Japanese stews was considered. Current flavour of meatballs would not be suitable and Japanese in supermarkets might have problems in conceptualising how beef meatballs could be used in stews compared with the more normal pork and chicken. We do not see this sector as one having good potential unless there is further product differentiation.
4. **Bento or Lunchboxes.** There is a potential for the sale of small meatballs in bulk for incorporation into large volume, low value lunchbox market. Meatballs would need to be at least 20% smaller than existing ones and not have sear marks.
5. **Chinese food.** With appropriate product development and refining, there is a distinct possibility that meatballs could be produced for incorporation into some Chinese foods which normally use chicken or pork meatballs. Meatballs would need to be smaller, perhaps half the size.

5. OTHER CONSIDERATIONS

The key to any success in sales of food products into the Japanese market depends on the Japanese agent engaged. This agent will need to be creative to provide feedback for product development and to determine and access new markets. It is also likely that he will need to carefully define products so that he will be able to sell slightly different products into different market niches.

It may be useful for Colonial Farm to test their product with large Japanese food companies which have offices in Australia. Suggested companies would be Ajinomoto and Nichirei. Another possibility is the Japanese joint venture recently established in Victoria which is producing fast food products for the Japanese market.

Regarding each of the possible markets above, it will be necessary to make some assessment of the likely market size for each market niche and from this assess the amount of funds which can be spent on product and market development.

At this stage, we believe the concept is an interesting one and worthy of further exploration and detailing. However, it is important that the target markets be defined as soon as possible. In addition, we are in a position to provide more information on the sorts of products and packages that are currently on the Japanese market and would be keen to explore this area in more detail.

Maurice Venning

QUESTIONNAIRE:

BEEF MEATBALLS

Q.1 Place of Birth :
Domicile (in Japan) :
Years at above domicile :

Q.2 Do you like beef meatballs? Please circle the appropriate level.
Don't Like Will eat if served Like very much
0 1 2 3 4 5 6 7 8 9 10

Q.3 How often do you eat meatballs?
..... times per month.

Q.4 Which of the following types of meat ball do you like most? (Circle the appropriate number.)

- 1. 100% beef
- 2. beef 50% and pork 50%
- 3. beef 50% and lamb 50%
- 4. other combination (explain below)

.....

Q.5 If you like 100% pure beef meatball, your reasons are:

.....
.....

Q.6 If you do not like 100% pure beef meatball as much as
(please write your preference), your reasons are:

.....
.....

Now turn to page 2.

Instruction: Please look at the 3 samples of 100% beef meatball marked A, B and C and answer the following questions.

Q.7 Please circle the numbers below to show how you feel about the appearance of each sample.

	Very bad				OK		Very good				
Sample A:	0	1	2	3	4	5	6	7	8	9	10
Sample B:	0	1	2	3	4	5	6	7	8	9	10
Sample C:	0	1	2	3	4	5	6	7	8	9	10

Q.8 Your reason(s) for giving the scores in Q.7 are:

Sample A:

Sample B:

Sample C:

Q.9 What do you think about the colour of the samples?

Sample A:

Sample B:

Sample C:

Q.10 What do you think of the size of the meatballs?

(Please tick one box.)

Too big Too small

Slightly big Slightly small

Just right

Now turn to page 3.

Instruction: Please answer the following question before you taste the samples.

Q.11 Your favourite methods (eg boil in water, microwave, fry in oil etc.) of cooking meatballs would be:

Most favourite method:.....

Second favourite method:.....

Third favourite method:.....

Instruction: The three samples A, B and C have been (1) boiled in water, and (2) microwaved. Please take a small piece to taste and answer the following questions.

Q.12 What do you think of the eating quality of the meatballs prepared by methods (1) and (2) without additional sauce?

Sample A

Method (1):.....

.....

Method (2):.....

.....

Sample B

Method (1):.....

.....

Method (2):.....

.....

Sample C:

Method (1):.....

.....

Method (2):.....

.....

Now turn to page 4.

Q.13

What do you think of the texture of the meatballs that have been (1) boiled in water, and (2) microwaved? (Eg soft, chewy, smooth, coarse, fine, crumbly, etc)

Sample A

(1):.....

(2):.....

Sample B

(1).....

(2).....

Sample C

(1).....

(2).....

Q.14

For each sample please state whether the meatball should be eaten with or without a sauce, and give your reasons.

Sample A :

Sample B :

Sample C :

If you like the beef balls with a sauce, what sauce would you recommend for each sample?

Sample A :

Sample B :

Sample C :

Now turn to page 5.

Instruction: The samples A, B and C have been boiled in water. Please take a small piece of each sample and dip in one of the sauces marked with a number. Taste it and answer the questions below.

Q.15 For sample A, the best sauce is :.....
.....

Q.16 For sample B, the best sauce is :.....
.....

Q.17 For sample C, the best sauce is :.....
.....

Q.18 Referring back to your answers for Q.15, 16 and 17, which combination do you think is the best?
.....

Q.19 Referring to your answer in Q.18, what further improvements to the sample and/or the sauce would you recommend?
.....
.....
.....
.....
.....

Thank you for your participation in this product evaluation.

牛肉100%のミートボールの三つのサンプルA、B、Cを御覧になって次の質問お答えください。

問7 A、B、Cのサンプルをまず見てどのように感じるかそれぞれ当てはまる番号に○をしてください。

	とても嫌い				OK				とても良い			
さんぷるA	0	1	2	3	4	5	6	7	8	9	10	
さんぷるB	0	1	2	3	4	5	6	7	8	9	10	
さんぷるC	0	1	2	3	4	5	6	7	8	9	10	

問8 問7の中でつけた点に対する理由は？

サンプルA : _____

サンプルB : _____

サンプルC : _____

問9 それぞれのサンプルの色を見てどう思いますか？

サンプルA : _____

サンプルB : _____

サンプルC : _____

問10 牛肉ミートボールのサイズは適当か？

(当てはしかく所一つにティックしてください)

- | | | | |
|---------|--------------------------|---------|--------------------------|
| 大き過ぎる | <input type="checkbox"/> | 小さ過ぎる | <input type="checkbox"/> |
| ちょっと大きい | <input type="checkbox"/> | ちょっと小さい | <input type="checkbox"/> |
| ちょっと良い | <input type="checkbox"/> | | |

これらのサンプルをあなただったらどのように料理しますか？
(例：茹でる、電子レンジに入れる、油で揚げる、その他)

問11 あなたの一番好きな料理方法を順番に書いて下さい。(上の例参照)

1. _____
2. _____
3. _____

三つのサンプルを茹でて暖める方法(1)と電子レンジで暖める方法(2)の二つの方法で料理しました。それぞれをまず日を見てそれから試食して次の質問にお答え下さい。

問12 それぞれのサンプルについて感想をお聞かせ下さい。 全体的に見て、試食して、どう思いましたか？

サンプルA

- 1の方法： _____

- 2の方法： _____

サンプルB

- 1の方法： _____

- 2の方法： _____

サンプルC

- 1の方法： _____

- 2の方法： _____

問13 1、2の方法で暖めたミートボールを食べてどのように感じましたか？
(例：柔らかい、堅い、滑らか、肉のひきかたがあらいい、ボルボルする、
噛むのに苦労する、肉のひきかたが調度いい、など)

サンプルA

1の方法： _____

2の方法： _____

サンプルB

1の方法： _____

2の方法： _____

サンプルC

1の方法： _____

2の方法： _____

問14 このミートボールをそのまま食べますか、それともソースにつけて食べますか、理由も書いて下さい。(味が薄いからソースをつけるなど)

サンプルA： _____

サンプルB： _____

サンプルC： _____

もしソースといっしょの方がいい場合、どのようなソースを推薦しますか？

サンプルA： _____

サンプルB： _____

サンプルC： _____

ここに三つのソースを用意しました？試食していただくミートボールは茹でたものです。それぞれのソースにミートボールをつけて試食して、次の質問にお答え下さい。

問15 サンプルAと一番合うソースは？

問16 サンプルBと一番合うソースは？

問17 サンプルCと一番合うソースは？

問18 どのサンプルとどのソースのコンビネーションが一番良かったか？

問19 問18に加えて他にも意見がございましたら何でも結構ですので下記に書き加えて下さい。(これをいれたらもっと味が良くなる等)

以上、試食および質問に協力頂きありがとうございました。