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PHASE II

**MARKET STUDY FOR
TEXTURED VEGETABLE PROTEIN (TVP)
IN THAILAND**

**Contract No AID/ea40
Department of State
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INTRODUCTION

The objective of Phase II of the contract is to develop product concept(s) that will significantly reduce the protein deficit by using indigenous raw materials. Information gathered in Phase I set the guidelines that determined the basic TVP product concepts that were considered for further development and testing. Dietary patterns, population trends and growth, country and consumer economics, marketing, physical facilities, and raw materials were some of the factors that determined the final product concepts.

Product development and screenings were conducted by four qualified parties: GPCI, Applied Scientific Research Corporation of Thailand (ASRCT), Business Research Ltd. (BRL), Cathay Advertising, and the Thai Department of Health. Each conducted experiments on the incorporation of TVP in existing Thai foods. Investigations were also made on new food products using TVP as a partial and as a total meat replacement.

SUMMARY OF PHASE I

The analysis of Phase I data revealed a number of factors that had to be explored before any product development work could be initiated.

The dietary patterns of the Thais varies by their economic and social status. Diets and eating habits also depend, to a large extent, on whether they are an urban or a country dweller. The actual types of basic foods eaten, however, do not vary to any great extent. The variety of "with rice dishes" will depend on the affluence of the consumer. Those in the higher income structure will have a number of complementary dishes served with their rice. These dishes may consist of vegetables, fish, and several types of meats. The less affluent, however, may only have a fish sauce and pepper with their rice.

A unique factor in the preparation of meat dishes is that all meats are prepared and served in bite size portions. No distinction is made on cuts of meats such as steaks, chops, roasts, etc. This lack of concern for particular cuts of meats and the desire for bite size portions lends itself well to the concept of TVP chunks in their foods.

Eating and preparation of meals is quite different in the urban and rural areas. The Thai family engaged in agriculture is a very

close working unit. That is, all members of the family are active in the growing and harvesting of the crops. As most of the fields are scattered and distant, it becomes quite impossible to return home for each meal. The wife will prepare enough food to last through the day's work and bring it along to the fields. As it is inconvenient, or at times impossible to heat the food, it is generally eaten cold. The only warmth derived from the food is from the indigenous "hotness" of the spices. The food usually consists of curry, rice, chili sauce, and fish. The fish is either fresh-cooked that morning or salted and fermented. The only meal that is eaten as a family is the evening meal. Any food left over will be taken along to the fields the next day. Most of the foods consumed are home grown. Rice, vegetables, and fruits are all grown by the farmer. Curry powders are prepared and blended from spices grown and purchased. All fish that is eaten is caught in the many canals, paddies, and rivers. Any excess food that is produced is either sold or used in bartering for durable goods.

The urban Thai normally eats only his morning meal at home. His other meals are purchased from the many food vendors or stalls that serve hot meals continuously throughout the day. Rarely will a worker bring food from home to be eaten while he is at work. When he returns home, he will finish the food left over from the morning meal.

Consumer and Country Economics. The per capita income of Thailand varies considerably by region and also by rural and urban areas within each region. (Reference tables 19 and 20, pages 54 and 55, Phase I.) It is also noted in these tables that there is a great inequality in the distribution of the country's wealth. A relatively small percentage of the population accounts for a large portion of the total income. This, however, is not an unusual situation in developing countries. Most of the population will make their livelihood in agriculture. Their production is limited to a subsistence level.

Those engaged in commerce and industry will receive a far greater return for their efforts in terms of real income. For, as the standards of living are increased, the demand for durable goods and services increases at a very fast rate.

The economy of Thailand has shown a constant rate of growth. In the last decade, the G.N.P. has risen over 100%. The largest contribution has been from construction, manufacturing and public utilities. Disposable income from 1964-67 rose 24.2%, while the cost of living index rose 8.8%. The real increase in disposable income rose then by 15%.

The consumer and the country are showing a constant growth in terms of real income. As Thailand becomes more affluent its demands

for more and better goods and services will increase. The continued trend away from agriculture, and the high rate of population growth are actually creating a greater need for additional sources of food supplies.

TVP Marketing. Establishing a marketing program for any food product in Thailand is a factor of major concern.

By habit, or through necessity, the Thais are accustomed to fresh foods. As is detailed in Phase I, food is purchased in quantities sufficient for just one meal. Due to the lack of refrigeration and other means of preservation, keeping or storing foods is virtually impossible. The tropical climate of Thailand allows a continuous growing season. Fresh vegetables and fruits are always available. Due to the continuous supply of fresh foods, there never has been a need or desire for processed or preserved foods. Canned, frozen, dehydrated, chemically preserved or packaged foods are virtually non-existent in the Thai food markets. The only exceptions are the specialty shops that cater to the affluent Thai and Europeans. They will carry a limited supply of various canned goods that are imported from other countries.

The concern in the introduction of any new food product in the Thai market is the lack of established marketing patterns or distinct channels of distribution.

There are two basic marketing problem areas. A new food concept must be introduced. All though TVP will assimilate meats in flavor, texture, and appearance, it still must be identified as a new food that is meat-like in nature. In other words, it is a meat substitute. The other major marketing concern is the introduction of a preserved or packaged food product. A mass education process will be necessary to overcome established habits and patterns if TVP is to be marketed at the consumer or retail level.

Alternatives are the limitations to more specific markets. The institutional market and specialized feeding programs which are sponsored by governments or other organizations could be reached more directly, and with less effort due to their shorter channels of distribution. Educating these markets in the value and use of TVP would be considerably easier, and at this point, more fruitful than attempting to reach the mass Thai market.

SUBCONTRACT ASSISTANCE

After analyzing and investigating all the factors brought out in Phase I, additional information was needed to initiate product concepts, determine the feasibility of the proposed concepts, and evaluate the market potential for the defined product(s). To secure additional information, the assistance of three local food research laboratories, a concerned commercial interest doing business in Thailand, and a market research agency was enlisted.

The three food research laboratories were the Nutrition Division Laboratories, Thailand Ministry of Health, Applied Scientific Research Corporation of Thailand, and the Home Economics Laboratory, Kasetsart University.

Investigation in the early stages of Phase I revealed several American companies that are currently marketing food products in Thailand. The objective in contacting these companies was an attempt to learn what marketing tools were more effective in the introduction and promotion of food products to the Thai market place.

CPCI immediately expressed interest in TVP and the potential of marketing such a product in Thailand. CPCI wanted to expand into other areas of the food trade, as their product line was limited to specialty goods directed to the HRI trade and the European and American families living in Thailand. With permission of AID, CPCI volunteered to lend their marketing experience to the development work of TVP products and assist in the testing of these products in the market place.

British Research Ltd., an international marketing research firm with offices in Bangkok, was contracted to assist in the evaluation and screening of products to be developed. They also were contracted to formalize and perform the home testings.

PRODUCT CONCEPTS

Each of the three laboratories, CPCI, and BRL, received samples of beef, pork, chicken, and unflavored TVP. Technical data that listed the nutritional values, preparation procedures, and physical properties of TVP was also distributed. No restrictive guidelines were set. The only general instructions given were to develop a product(s) acceptable to the Thai consumer incorporating TVP either as a partial meat replacer or as a complete meat substitute.

PRODUCT CONCEPTS--MINISTRY OF HEALTH

The Ministry of Health took two approaches in their TVP development work. Under the direction of Dr. Amoran and Mr. Uthai, product formulation and recipe development was conducted within the laboratory--Division of Nutrition. The other approach decided on by Dr. Amoran and his staff was an experimental feeding program at child nutrition centers in four villages of Northern Thailand.

The Nutrition Division's Laboratory developed and prepared five recipes. Each recipe that substituted all meat with either beef or pork flavor TVP is:

1. A highly seasoned curry, with TVP beef flavor chunks #15, eaten with boiled rice.
2. A modified Indian style curry using TVP beef flavor chunks #15.
3. Soup, prepared with beef flavor chunks #15, vegetables and seasonings.

4. Sautéed TVP with vegetables, TVP pork flavor chunks #15 are separately hydrated, then sautéed together with fresh vegetables in pork fat.
5. Soy-pork paste. TVP pork flavor chunks #15 are separately hydrated, chopped firmly, and blended with fermented soybeans. Fresh vegetables are dipped into the paste and eaten.

Dishes prepared from their recipes were served to a taste panel consisting of the Ministry Official, Laboratory workers, and secretaries. Each panel member was given a questionnaire and asked to evaluate TVP as an ingredient for appearance, texture, flavor, size, and general acceptability as a Thai food. The majority of the panelists rated each dish on each characteristic. The panel's evaluations are listed in Table 1.

Table I

Taste Panel Ratings on Dishes Prepared from TVP in the
Ministry of Health & Nutrition Laboratory

	Very Good	Good	Fair	Poor
<u>Appearance</u>				
"Beef" Soup	-	12	-	-
"Beef" Curry	1	12	-	-
"Pork" Fried	-	9	2	-
"Pork" Paste	-	10	1	-
<u>Texture</u>				
"Beef" Soup	1	6	6	-
"Beef" Curry	-	10	3	-
"Pork" Fried	-	6	5	-
"Pork" Paste	-	7	3	-
<u>Flavor</u>				
"Beef" Soup	-	7	5	-
"Beef" Curry	1	7	4	-
"Pork" Fried	-	3	9	-
"Pork" Paste	2	10	-	-
<u>Size</u>				
"Beef" Soup	-	10	2	-
"Beef" Curry	-	7	5	-
"Pork" Fried	-	8	4	-
"Pork" Paste	-	8	2	-

The Indian style curry was not included in this tabulation since most of the Thai participating in the panel expressed a definite dislike for the dish and their ratings appeared to reflect this, rather than an evaluation of the TVP ingredient. There is considerable difference in the flavoring and seasoning used between Thai and Indian curries. This fact was confirmed in the panel evaluation.

Some panelists used the terms "O.K." and "Fine". In making the tabulation, "O.K." was arbitrarily entered under the "Good" column, and "Fine" under the "Fair" column. In their ratings and also in written comments, most of the panel considered the appearance of the TVF ingredients as "Good". The panel was somewhat critical of the texture, with about 35% rating this characteristic as "Fair". Several of the panelists described TVP as rubbery, like a meat or fish ball rather than the normal Thai beef and pork, which is tougher and more chewy.

The ratings on flavor also showed about one-third of the panelists classifying the flavor as "Fair". Many of the panelists described the beef flavor as too bland when compared with the Thai beef and buffalo meat normally used in curries and soups. A majority of the panel gave a "Fair" rating to the flavor of TVP used in the fried pork dish and reported "soy" taste.

The size of the TVP used was considered about right. Some preliminary laboratory evaluations indicated that the #15 chunk was about the size of the beef and pork used and prepared by the Thai; thus, this was the only size used in this evaluation. A number of the panelists that rated the size as "Fair" suggested that a strip rather than a chunk would be preferable for curries and fried dishes.

All of the panelists were affirmative on the acceptability of TVP as an ingredient in Thai foods, with most of them suggesting that curries and fried dishes would be the best products for incorporating TVP.

The experiential feeding program conducted at the Child Nutrition Centers was an attempt to test the general acceptance of TVP by the children and also evaluate the nutritional values of TVP. The children in the experimental group were fed a basal diet supplemented with a plain TVP and one fortified with methionine at levels designated to fulfill their daily protein requirements. The children in the control group were given the same basic diets with the exception of TVP. Records on the frequency of foods and amounts consumed were collected for each child at the center. Average total protein supplement (TVP) per child per day was calculated according to the amount actually consumed. Height and weight records were taken before and after each feeding period. The data is being computed and will be compared with the children in the control group.

All data on the nutritional evaluation is not yet available. Results, therefore, cannot be included in this report.

Data on the general acceptability of TVP as an ingredient, however, have been evaluated and reported. All children accepted TVP as a food ingredient with one exception. One center where the economic status is higher than the other three did not accept TVP. As they are more accustomed to meats in their foods, they did not accept TVP as a meat substitute. Their main objections were: TVP is not meat-like in appearance, it does not smell like fish or like meat, it does not taste like either meat or fish, and the piece size was too small. A follow-up test was made in their center using a large piece size and adding beef flavor to the TVP. As a result, all objections were eliminated and the children found it quite acceptable as a meat substitute.

PRODUCT CONCEPTS--APPLIED SCIENTIFIC RESEARCH CORPORATION OF THAILAND

Since ASRCT is the only facility in Bangkok where commercial research and testing could be controlled and directed by the sponsor, a contract was made with them to develop and evaluate ten typical Thai recipes. The objective was to determine whether TVP could be used as a partial or total replacement of meat with some measurement of public reaction to TVP. The report by ASRCT is submitted in its entirety as Supplement A.

PRODUCT CONCEPTS--HOME ECONOMICS DEPARTMENT, KASETSART UNIVERSITY

Samples of chicken, beef, and pork flavor TVP were provided to Miss Chaunchorn for evaluation on acceptability as a Thai food ingredient by the Kasetsart University Home Economics Department. A number of Thai dishes were prepared and evaluated by a taste panel. The individual results were not made available. However, the following general comments were made by Miss Chaunchorn:

1. Chicken flavor TVP was the most acceptable to the taste panel. However, the panel also rated the pork and beef flavors "Good".
2. In Curries, the flavor and odor are not too important as long as the texture is comparable to meat.
3. In soups a good, strong meat flavor is needed and the meat like product is more important.
4. The soy taste and odor were noticeable by the taste panel. However, this was not rated as being objectionable.
5. The size of the chunks #10 and #15 were satisfactory. Slices would also be highly desirable.

Miss Chaunchorn had agreed to furnish copies of the recipes, questionnaires, and test results. However, to date they have not been received.

PRODUCT CONCEPTS--CFCI

CFCI maintains offices in Bangkok, Thailand, and other countries of the Far East where they market their product lines. Most of the offices are sales offices operating with a small staff who work with the wholesalers and distributors within each country. Most of the products marketed are imported. For example, the jams, jellies, and preserves marketed in Thailand are imported from the Philippines. CFCI does not have a production facility in Thailand.

Hong Kong is the company's headquarters for their Far East interests. Research facilities and product development laboratories are in Tokyo, Japan. Development work on TVP products was done in the Tokyo laboratories.

With the information and data provided in Phase I of the study, plus the results of the recipe formulation and product development work conducted by the three Thai laboratories, CFCI was able to finalize the product areas in which TVP was tested.

CFCI did a wide array of testings with TVP products. They experimented with hydrated TVP in combination with meat in dishes such as sweet/sour spiced meatballs, pork sausages, and chicken smacks. They used dehydrated TVP as a complete meat substitute in soups, with vegetables and in noodle dishes. They emulsified TVP,

meat, and fish. For the emulsion they prepared beef and fish balls. Candy and other sweet snack items were made using TVP as an ingredient.

Methodology, criteria, testing, and test results are all reported and are attached as Supplement B.

PRODUCT SCREENING AND EVALUATION

All product concepts that were developed by the participating groups were evaluated and screened. Standards established for the screenings and evaluations were set by ADM and CFCI personnel. Essential factors set as standards were: product market potential, price, consumer acceptance, packaging, distribution system and profitability.

Product. The product must be acceptable to target eating habits. If the TVP is to be used as a meat substitute, it must have the same characteristic taste, smell, appearance, and texture consistency of the meat it is being substituted for. If it is used in combination with meat, it must be compressible enough so that it cannot be distinguished from the meat.

Market Potential. The market potential must represent a large initial volume with an anticipated growth rate which can be influenced by promotion. Market penetration must be directed to the largest possible market. Market parameters should include the size of each

ethnic group and the economic status of the largest percentage of the consumers.

Price. The price should be lower than existing comparable product prices. It must be priced at levels which make it accessible to most consumers within the market parameters.

The Thai consumer is accustomed to purchasing goods in "tubi" units rather than by weight. Therefore, when establishing a price structure for a new product, consideration must be given to the price per package size rather than price per unit of weight. For example, package size would be in increments of three, four, or five "tubi" sizes rather than in one, two, or three pound packages.

Consumer acceptance. The consumer's desire to buy and use the product will depend on how well the product conforms to standards one, two, or three. The degree of acceptance and market penetration will vary by the amount of promotion used in the introduction of the product and the ability of the promotional material to create a need for the product.

Packaging. The most desirable package will be one that gives the most protection to the product and one that lends itself to the easiest identification of the product. The form of the end product--hydrated or dehydrated--will dictate to a degree the type of package

and the package material to be used. The Thai consumer is accustomed to seeing what he is buying. The most common commercial packaging material currently being used is a plastic wrap or pouch. Ideally, plastic or glass should be the material used. Newspapers and leaves are still the most widely used wrapping material.

Distribution. To insure maximum market penetration, the product must be adaptable to existing systems and channels of distribution. The channels and systems chosen should be ones that are currently transferring products of a similar nature to the same desired mass market.

Profitability. The product must be such to ensure the required amount of return to the manufacturer and concerned intermediaries. Consideration for required profits plus the wholesale price of the product to the consumer must be given in the development of the product. Anticipated volume, value added by the distribution channels, cost of raw materials, and promotional costs will dictate both the price of the product and the profits received.

SELECTION OF TEST PRODUCTS

The final selection of product concepts was determined by the test results and the evaluation of all information and data gathered. Archer Daniels Midland's and CFCI's marketing and research personnel analyzed the test results, evaluated all contributing factors, then finalized the product concepts that were to be tested. Products selected to be further developed and tested were: a packaged meat flavor TVP, a packaged dehydrated curry and TVP, and a combination meat and TVP sausage.

This selection of product concepts allowed TVP to be tested in two extreme TVP forms:

- a. TVP as a stand product to be judged on its own merits, and
- b. TVP used as a partially meat replacement in a common and convenient meat product to eliminate the presence of TVP being made known to the consumer.

Dehydrated Meat Flavored TVP. Meat flavored TVP was selected as because meat is the most acceptable and the most desirable meat in this land. These products represented three of the meat flavored tested, the meat flavor, TVP, was the most acceptable.

The piece size, 0.5" x 0.5", was chosen, as it is most representative the piece size of meat used in rice dishes, curries and soups. The dimensions of the curry #10 are $1/8"$ x $1/2"$ x $1"$.

This product would not present any problems in preparation by the consumer, preserving, or packaging.

Hydrated Gassy and TVP. One of the very few prepared or prepackaged foods commonly purchased by the final consumer is gassy. Gassies are a variety of species that are blended together and then ground into a powder. It is becoming quite common for the consumer to purchase the gassy products rather than doing through the various steps of blending and grinding.

These products showed that TVP was an acceptable hydratable in Gassy blends. It was concluded that these products gassy products are purchased as a means of convenience, the convenience factor would be the main one that drives the consumer to purchase these products. The use of products such as these in blends with other products, such as TVP, would be acceptable in blends with other products, such as TVP, and the products used in the blends.

Generally, the acceptability of the Gassy blends would depend on a number of factors, such as the amount of TVP, and the amount of other products. Addition of vegetables and other hydratable products would be added to the TVP blends by the consumer and the gassy products are blended accordingly.

Meat and TVP Sausages. The selection of meat and TVP sausage was based on a number of factors. Sausages are an accepted food product. They are one of the few processed ground meat type foods purchased by the consumer. The process used in the manufacture, and

the ingredients used, allow an extended shelf life without the need of special care. This type of product had already achieved consumer acceptance in the United States and in some European countries. Meat and TVP combinations were being successfully used in a number of food products such as meat patties, luncheon meats, breakfast sausages, chili's, pizzas, spaghetti's, etc.

This product concept would determine whether TVP could practically replace meats in a commonly sold meat product without the presence being detected by the consumer. The members of the research group would be asked to judge the quality of the sausage on flavor, texture, appearance, and general acceptability. These tests would also be conducted to judge the acceptability of TVP in the United States.

DISCUSSION, CONCLUSIONS AND RECOMMENDATIONS

The product preparation was completed with the acceptance of 100%. It was decided to use TVP beef flavor, combination sausage and TVP beef flavor and meat sausages that contained TVP as a practical meat replacement.

To determine the type of beef sausage that was most commonly eaten, this conducted an interview of one hundred persons. Twenty-five individuals each were conducted at the Virginia Polytechnic Institute, the Virginia Commercial School, Washington State College and the Virginia (Washington State) and the Virginia Polytechnic Institute.

Results of the interview showed that the beef curries most frequently eaten are Kiew Mhan Beef Curry, Mas Mhan Beef Curry, Phasang Beef Curry, and Beef Curry Red.

The scores were computed by multiplying the number of first choices by four, the second choices by three, the third choices by two, and the fourth choices by one and adding the results. Interview results are listed in Table 2.

The four curries most frequently mentioned were prepared substituting the beef meat with beef flavor IVP. The curries were tested by a taste test panel of thirty who were asked to choose the curry they thought to be the most acceptable. The curry found to be the most acceptable by the panel was Mas Mhan Curry.

A clear plastic bag was the package decided on for all test products. It was felt that this type of package would be the most familiar package and the one that would have the least influence as to general product acceptability.

The final product package consisted of an outer plastic bag that contained 200 grams of IVP, a pouch with 100 grams of Mas Mhan Curry, and a card printed with the endorsement of IVP by the Thai Department of Health on one side and preparation instructions on the reverse side.

Table 2

Question: Could you tell us the names of the four beef curries that you like to eat most, in order please?

	<u>Score</u>	<u>ORDER OF PREFERENCE</u>			
		<u>First Choice</u>	<u>Second Choice</u>	<u>Third Choice</u>	<u>Fourth Choice</u>
		<u>%</u>	<u>%</u>	<u>%</u>	<u>%</u>
Kiew Van Beef Curry	261	34	28	16	9
Mus Muim Beef Curry	204	24	14	27	12
Phanang Beef Curry	178	15	21	16	23
Beef Curry Red	129	12	19	8	8
Kang Curry Beef	88	3	8	14	24
PAT Phet Beef (PAT Khee Mao)	47	3	3	10	6
Beef Kang Paa	43	6	5	-	4
Beef Ton Yun	12	1	-	3	2
Stew Beef Curry	8	-	1	-	5
Beef Soup	6	-	-	3	-
Beef PAT Phet with Leaves	5	1	-	-	1
Stean Beef	5	-	-	1	3
Beef Ton Yun with Bamboo Shoots	4	1	-	-	-
Beef Kang Son	1	-	-	-	1

(Continued)

Continued...

		<u>ORDER OF PREFERENCE</u>			
		<u>First</u> <u>Choice</u>	<u>Second</u> <u>Choice</u>	<u>Third</u> <u>Choice</u>	<u>Fourth</u> <u>Choice</u>
	<u>Score</u>	<u>%</u>	<u>%</u>	<u>%</u>	<u>%</u>
Pat Prik (Beef sauteed with chillies)	1	-	-	-	-
Yum Beef	1	-	-	-	-
No Answer	-	-	1	2	1
TOTAL		100	100	100	100
BASE		100	100	100	100

The TVP beef flavor strips #10 were similarly prepared for testing. Three hundred grams of TVP, a card with the endorsement of the Thai Department of Health, and preparation instructions were packaged in a clear plastic bag.

The final product to be prepared for the Home Testings were the TVP and meat sausages.

Sausages from four independent sausage manufacturers were obtained. The sausages from each manufacturer were submitted to a taste test panel to determine which sausage was most acceptable as a norm. During this testing, certain conclusions were drawn regarding taste, sweetness, salt level, etc. These results were passed on to the manufacturers as suggestions for recipe augmentation during his preparation of the sausages, which were to contain TVP.

The sausage found to be most desirable by the taste panel was a Chinese type called "Lap Cheung".

Based on prior experience in combining TVP and meat, it was decided to substitute meat with TVP at the 15% and 30% levels. At these levels TVP performs functionally by absorbing excess fat, lowering the cost of the end product, and increasing the nutritional qualities of the product.

Lower costs are realized when using TVP. The following formula illustrates the economics of using TVP as a meat substitute.

	<u>All Meat</u>	<u>Meat & 15% TVP (5% TVP & 10% Water)</u>	<u>Meat & 30% TVP (10% TVP & 20% Water)</u>
Meat @ \$.50/lb.	<u>\$.50</u>	<u>\$.425</u>	<u>\$.35</u>
TVP @ \$.30/lb.	---	.015	.03
Water--No Charge	<u>---</u>	<u>----</u>	<u>---</u>
Total Cost of Product	<u>\$.50</u>	<u>\$.44</u>	<u>\$.38</u>

In this example, a 12% savings is realized in the formula using 15% TVP and 24% savings in the formula containing 30% TVP.

The cost of the meat used in the illustration is an approximate cost. The cost of TVP is based on the unflavored, uncolored, minced #180 which was the TVP used in the manufacture of the sausages. The thirty cent price is the wholesale cost of this TVP product in the United States. However, it does not necessarily mean TVP will be the same price if it is marketed in Thailand. Final cost studies have not been completed at this point.

The two sets of sausages were prepared by the sausage manufacturers and packaged for Home Testings.

Initial work on a complete package for market introduction of TVP products was conducted by Cathay Advertising. Availability

of packaging materials, cost of materials, and printing costs were investigated. Preliminary work on consumer reaction to package design, product name, and description was also inaugurated. However, until Home Testings were complete, and the results analyzed, further work in this area was not continued.