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IDENTIFICATION OF ALTERNATIVE MEAT PRODUCTS FOR EXPORT

SI/URU/85/801/11-03

URUGUAY

Technical report: Marketing aspects of the specially treated Uruguayan FMD virus free beef products for export to Europe, USA or Japan *

Volume III

Prepared for the Government of Uruguay
by the United Nations Industrial Development Organization,
acting as Executing Agency for the
United Nations Development Programme

Based on the work of Shirley M. Holt,
Meat Industry Economist

Backstopping Officer: B. Galat, Agro-based Industries Branch

United Nations Industrial Development Organization
Vienna

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FOREWORD

The report of this project 'Identification of Alternative Meat Products for Export' is consisting of three volumes, two dealing with the technical aspects of the project and one with the marketing aspects; it has been prepared by three experts, one meat processing expert, one meat industry expert and one meat industry economist.

Volume I is one of the technical parts and has been prepared by Mr. Robert B. Sparnon at the home base in England. It is dealing with the appropriate technologies/techniques for suggested treatment of FMD meat in Uruguay and describes the new beef product samples suitable for local consumption and for export. Subjects like e.g. product identification, development of product recipes, product costings, manufacturing instructions, the factory equipment required and the potential factory layout are being dealt with in that volume.

Volume II is the other technical part prepared by Mr. Jimmy T. Keeton partly in Montevideo and in the USA. This part is dealing with the outline of the proposed processing and marketing policy for Uruguayan FMD beef for domestic consumption and for export. In connection with the development of value-added (for export) processed meats the processing facilities and processing requirements for certain meat products, the changes required to advance the meat industry in Uruguay are subjects which are being dealt with in that volume.

Volume III is the marketing report and has been prepared by Ms. Shirley M. Holt, whose duty station was Montevideo but who also coordinated the work of the other expert in England. The marketing report is dealing with the marketing aspects of the specially treated Uruguayan FMD virus free beef products for export to Europe, USA or Japan. Subjects like e.g. identification of the market, constraints, the situation of the Uruguayan meat industry, the packaging of meat products, the marketing of frozen meat products, the marketing chain or the commercial feasibility of the project are being dealt with in that volume.

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Technical report: Marketing aspects of the specially treated Uruguayan FMD virus free beef products for export to Europe, USA or Japan

Volume III

1.0 INTRODUCTION

1.1 CLIENTS AND TERMS OF REFERENCE

1.1.1 Clients

The United Nations Industrial Development Organisation (UNIDO) commissioned Shirley M. Holt (SMH) on behalf of the Government of Uruguay to carry out a study in cooperation with the Ministry of Agriculture and the Uruguayan Meat Institute (INAC).

1.1.2 Terms of Reference

The summary terms of reference were:-

"The Consultant will study the characteristics of the demand of the consumer market at which the new varieties of products will be aimed; study the availability of raw materials resources; elaborate standard instructions for the processing of the meat products; evaluate economically the possibilities of the new meat processing technology at an industrial level and provide recommendations thereof: prepare a report."

The detailed terms of reference are shown at Appendix 1.

1.1.3 Counterparts

1.1.3.1 UNIDO Vienna

The agreement was negotiated with Mr. Lucio Leite, Senior Recruitment Officer, UNIDO, Vienna International Centre, PO Box 3000, A-Vienna, Austria and the technical contact was Mr. Galat, Substantive Officer, Agro-Industries Section, UNIDO, Vienna.

1.1.3.2 UNIDO Montevideo

The UNIDO representative in Montevideo was Mr. R. Buitelaar, Organizacion de las Naciones Unidas, Para el Desarrollo Industrial, Andes 1365 P 14, Montevideo, Uruguay.

1.1.3.3 Ministry of Agriculture

The team leader appointed by the Ministry of Agriculture was Dr. Carlos A. Correa, Ministerio de Ganaderia, Agricultura y Pesca, Montevideo, Uruguay.

1.1.3.4 Instituto Nacional de Carnes (INAC)

The counterpart within the Instituto Nacional de Carnes - The National Meat Institute (INAC) was Ing. Maria de Carmen, Sub Director, Direccion de Ingenieria y Procesos Technologicos, INAC, Rincon 545, Montevideo, Uruguay.

As the marketing member of the team SMH had considerable contact with the marketing department of INAC and in particular Cr. Enrique Elena Denis, Director, Direccion de Comercializacion and Crd. Bibiana Soler, Sub Director.

Shirley Holt woulo like to take this opportunity of thanking the Uruguayan counterparts for their help and assistance during the assignment and in particular Ms. Vilanova who in addition to arranging the programme acted as interpreter in many of the meetings.

1.2 THE REPORT

In preparing the report the Consultant has been aware of the wide variety of persons and organisations to whom it may be of interest including UNIDO, the Government of Uruguay, Uruguayan industrialists and investors, overseas industrialists and investors and the buyers of Uruguayan products. A considerable amount of the information obtained during discussions in Uruguay is confidential and for this reason all references to slaughterhouses and other commercial organisations have been coded at the request of INAC. A list of these codes will be issued with the report to UNIDO under separate documentation.

1.3 THE OBJECTIVES OF THE REPORT

In preparing this report the Consultant is aware that the contents will be used for a number of different functions including:-

1.3.1 Prefeasibility Study

The functions of the Prefeasibility Study are to identify the market for new products and determine if adequate margins are available.

1.3.2 Constraints

The report will describe any constraints operating in the market and provide proposals to eliminate or overcome these as appropriate.

1.3.3 Product Range

The report specifies an outline product range and indicates the technological requirements. However it is not the purpose of this report to detail the specification and processing methods of the product range which will be undertaken by another member of the Consultant team.

1.3.4 Quality

The report describes the quality parameters necessary to satisfy the market and indicate the organisation and methods required to provide the necessary quality assurance. It is not however the purpose of this report to detail the quality control methodology which was to be the responsibility of another member of the Consultant Team.

1.3.5 Rationale

While it has been possible to identify a market which could be exploited by meat products from Uruguay the costs involved would necessitate a price structure which is considerably higher than products at present on the market. It is essential therefore that further market research is carried out before implementation. Great care must be taken during implementation to ensure that the Uruguayan investors and managers supplying the European market thoroughly understand that market.

During discussions in Uruguay the Consultant was accused of being pessimistic and certain sections of this report could certainly be read in that light. However the Consultant believes that it is essential that all the problems are highlighted at this stage so that sufficient time is allowed during development to overcome the problems of supplying a market from 7,000 miles distance. The report therefore seeks to provide constructive suggestions for overcoming the constraints on the market and to indicate the costs involved in minimising the risks. It is for this reason that Chapter 3 of this report outlines the constraints which have to be overcome so that these are clearly understood from the beginning.

2.0 IDENTIFICATION OF MARKET AND CONCLUSIONS

2.1 THE WORLD MARKET

It is shown in Chapters 4 and 5 that the world market for meat and meat products is now saturated and although Uruguay produces high quality meat more cheaply than other areas of the world, tariff and other barriers prevents its profitable export to those countries which can afford consumption including the USA, Japan and the EEC.

2.2 MARKET OPPORTUNITY

An opportunity has been identified within the European, and specifically the UK, market however to import high quality, precooked, frozen prepared meals using the high quality cuts which cannot be exported profitably under the existing quota arrangements.

Samples of three products, Boeuf Bourguignonne, Steak Chasseur and Beef Kebabs have been developed and fully costed. Details of the methods of preparation, the ingredients, packaging and equipment required are contained in the Technical Report Volume I .

2.3 FEASIBILITY

The initial calculation of feasibility taking into account all costs of production distribution, shipping and duty payable at 26% of value on importation indicates that the products could not be sold profitably at a price comparable with the most expensive products at present on the UK market. In fact at this price there would be a trading loss as indicated in Table 11.11.1.

2.4 PRICE STRUCTURE

A further exercise has been carried out to determine the price structure which would be necessary to obtain an adequate "Return on Capital". The price of Boeuf Bourguignonne and Steak Chasseur would have to be increased from 179p per unit to 217p per unit to obtain a Return on Capital of 10%. The Beef Kebabs under the same conditions would have to be sold at not less than 277p for a unit which could arguably be said to be suitable for two portions.

2.5 FINANCIAL ANALYSIS

Table 2.5 analyses the financial features of the project assuming the Retail Prices stated above on a sale of 320 tonnes of each of the three products during the first full year of operation.

TABLE 2.5 FINANCIAL ANALYSIS

Retail Price on United Kingdom Market	
Boeuf Bourguignonne	217p
Steak Chasseur	217p
Beef Kebabs	277p

Ref		Total $US'000	% NSV	$US/Tonne
11.12.1	Net Sales Value	7786	100	8110
11.12.1	Agent and Distribution	708	9	737
11.12.1	Landed Price	7078	91	7373
11.12.1	Duty	1461	19	1521
11.12.1	CIF Before Duty	5618	72	5852
	Prime Cost			
11.4	Meat	1027	13	1070
11.4	Other Ingredients	957	12	997
11.4	Packaging	933	12	972
11.4	Direct Labour	165	2	172
11.4	Total Prime Cost	3081	40	3210
11.5	Gross Profit after Duty	2026	26	2110
	Expenses			
11.6.2	Shipping	372	5	387
11.7	Working Capital	386	5	402
11.8.6	Depreciation Equipment	153	2	160
11.9	Depreciation Buildings	56	1	58
11.10	General Expenses	918	12	956
	Total Expenses	1885	24	1964
	Surplus after Expenses	651	8	678
	Capital Employed	6513		
	Return on Capital Employed	10%		

2.5.1 Net Sales Value

The Net Sales Value has been obtained having allowed the UK retailer a 35% margin. This may be considered somewhat excessive but with these high price products which will have a relatively low turnover it will be essential if listing is to be obtained.

2.5.2 UK Agent and Distribution

10% of the landed price has been allowed to cover the cost of primary distribution ie from the UK port to the retailers depot and the cost of a UK marketing agent.

2.5.3 Duty

This category of cooked, frozen meat attracts a Customs duty of 26% of the landed value.

2.5.4 Prime Cost

2.5.4.1 Meat

The meat used in these products is high quality steer, rump and topside which has been costed in at the same price as the FOB frozen exports from Uruguay.

2.5.4.2 Other Ingredients

The other ingredients involved in the products are high quality vegetable garnishes, seasonings and specialist starches. A high proportion of these will have to be imported into Uruguay but there may be an opportunity to contract grow the vegetables in Uruguay which would marginally reduce the import costs.

2.5.4.3 Packaging

The packaging recommended in the Technical Report would be imported into Uruguay preformed ready for packing. However in the long term it may be possible to make marginal savings by employing more sophisticated packaging machinery and importing the packing in reel form.

2.5.4.4 Direct Labour

The Direct Labour is relatively small with between 19 and 27 persons employed on the line depending on the product being manufactured.

2.5.5 Shipping

Shipping these sophisticated products will be in refrigerated containers. This would normally be completed on pallets but it has been shown that the cost of palletisation would more than double the shipping costs.

2.5.6 Working Capital

The Working Capital at 5% of NSV is relatively high due to the requirement to store meat, due to seasonality of supply, other ingredients and packing in order to avoid delays in importing these products.

The retail trade in the UK will not be prepared to pay in advance for prepared products and therefore financing for a total of 5 months will be required from manufacture to payment.

2.5.7 Equipment

The total cost of equipping the factory including importation cost will be of the order of $US1.5million and has been depreciated over 10 years.

2.5.8 Buildings

The total cost of buildings has been calculated at $US1.1million and has been depreciated over 20 years.

2.5.9 General Expenses

The general expenses have been calculated by applying a multiplier of 3 to the 39 management, clerical and general workers required over and above the Direct Labour. The procurement costs in particular will be relatively high for the size of the unit due to the necessity of travelling to obtain the imported raw materials. In total general expenses have been estimated in the order of $US900,000.

2.5.10 Surplus After All Expenses

The surplus shown in Table 2.5 after all expenses and based on the inflated Retail Value would be of the order of $US650,000, approximately 10% of the Total Capital employed.

2.6 RECOMMENDATIONS

The consultant cannot recommend this project on the basis of the present study as there must be severe doubts as to whether the Retail Values included in Table 2.5 above can be obtained in practice. The products as developed have not been shown to the UK trade as finance was not available for this part of the project. It is recommended that the samples should be assessed by the trade and UK consumers as described in paragraph 10.3 before continuing with the project.

3.0 CONSTRAINTS

3.1 FOOT AND MOUTH DISEASE

Foot and mouth disease is endemic to Uruguay and is controlled by means of a vaccination programme. Under these circumstances the export of bone in carcase meat is prohibited to the EEC, the USA and Japan which constitute the most profitable markets for high quality beef. Exports to the EEC are limited to boneless meat while meat for the US market must have received a minimum heat treatment.

3.2 OTHER HYGIENE REQUIREMENTS

Meat and meat products for export to Europe, the US and Japan must meet local hygiene requirements. In the case of the ECC this involves the slaughterhouse, cutting rooms, processing and packing plants undergoing an annual inspection by EEC veterinary staff and meeting the regulations laid out in EEC Directives and Decisions. The United States Department of Agriculture also requires annual inspections meeting their regulations.

3.3 IMPORT QUOTAS

Imports into the EEC of fresh meat are subject to GATT quotas and Uruguay has to compete with other exporting nations in order to obtain the necessary licences either on an ad hoc or annual basis.

3.4 LEVIES

Where meat is not subjected to quota the EEC imposes a levy system such that the landed price of the meat is at least as high as EEC produced meat.

3.5 CUSTOMS DUTIES

Imports to the EEC and US are subject to Customs duties.

3.6 SHELF LIFE

With the very long distances involved in shipping products to either the US, EEC or Japan the products must be shelf stable. For this reason either fully sterile or frozen products only have been considered.

3.7 SEASONALITY

A very high proportion of Uruguayan beef for export is killed between mid December and mid July. While meat is traded as a commodity this seasonality can be matched with meat supplies from other regions of the world. However if branded or own label sophisticated products are to be manufactured it is essential that these are available 52 weeks of the year as manufacturers,

wholesalers and particularly retailers will not be prepared to allocate time, resources and shelf space on any other basis.

3.8 MEAT INDUSTRY CAPACITY

While there is undoubtedly no shortage of suitable slaughtering capacity within Uruguay at the present time it is doubtful whether sufficient cold storage, cutting and processing capacity is available and this will have to be provided by this project.

3.9 DISTRIBUTION

Traditionally Uruguayan meat has been sold through importers who have been responsible for distribution to the final destination. However if branded or own label products are to be distributed it will almost certainly be necessary to hold buffer stocks within the importing country and to either appoint distributors or set up a marketing office.

3.10 MARKETING

Uruguayan meat has traditionally been marketed as a commodity with the main contact being by telex. Individual traders have visited Uruguay on an annual or biannual basis and Uruguayan personnel have visited Europe with a similar frequency. This infrequent contact will not be sufficient for the development of a range of branded products and it will be necessary for the Uruguayan company involved in this trade to set up offices within the importing country with personnel capable of selling the product into the retail outlets, supporting advertising, providing product information and acting as troubleshooters.

3.11 SHIPPING SPACE

There is some evidence to suggest that at certain times of the year particularly when the kill has been heavy there has been a shortage of refrigerated shipping capacity particularly in containers.

3.12 LABOUR RELATIONS

The Uruguayan labour market is subject to considerable unrest and strikes are common particularly during wage negotiations. Importers of branded products will not be prepared to cover for frequent stock shortages which this may cause and it is essential that buffer stocks of raw materials including meat, ingredients and packaging, and finished goods are held in Uruguay with finished goods also stocked in the importing country to cover these situations and delays in shipping.

3.13 CURRENCY FLUCTUATION

The Uruguayan economy is subject to rapid inflation but this need not necessarily affect their exports. However of more importance will be variations in the value of European currencies vis a vis the US dollar.

3.14 COMMUNICATIONS

A major problem in trading with Uruguay is the very small overlap in working hours between Uruguay and Europe particularly during the Uruguayan winter when offices in Uruguay do not open until 12 noon by which time it is 4.00 or 5.00pm in Europe. Supermarket buyers interested in purchasing branded or own label goods are not prepared to operate by long distance telephone or telex particularly as the delay in the telephone system can be up to 2 hours. This is one of the major reasons why it will be essential to set up a marketing office in the importing country.

3.15 QUALITY CONTROL

While the Uruguayan Government and meat industry have an elaborate system of quality control supermarket buyers particularly of own label products insist upon frequent inspection of the factories by their own technical staff. This would constitute a major problem in terms of both time and distance and this is another reason why it is suggested that the Uruguayans will require a marketing office in the UK or alternatively make arrangements with a UK distributor who will be responsible for all quality control.

3.16 SUPPLY AND DEMAND

Examination of the Uruguayan export figures over the past 10 years indicate that they have tended to be opportunistic and have supplied markets where the demand has been urgent. An example of this was the situation in the summer of 1986 where there was a shortage in Brazil and considerable quantities of meat were exported directly to Brazil. This type of situation cannot be allowed to jeopardise a branded or own label operation. It is essential, even if it means trading less profitably for short periods, that products are always available once the market has been developed.

4.0 THE MARKET FOR BEEF

4.1 THE WORLD MARKET FOR BEEF

The data presented in this paragraph shows the major trading nations with regard to beef and has been selected from the FAO Production and Trade data and World Bank Population figures to ensure that countries with the largest population, Gross National Product and Gross National Product per Capita have been included.

Production data has been obtained from the 38th issue of the FAO Production Year Book, Table 91, Page 299 for Beef and Veal Production. Production in metric tonnes relates to animals slaughtered within national boundaries irrespective of their origin.

Consumption has been calculated by adding the production and import data and subtracting the exports for each individual country. Import and export data has been obtained from the FAO Trade Year Book 1984, Volume 38. Table 11, Page 54 details the import and exports of meat of bovine animals, fresh, chilled or frozen. Cured, dried and preserved meats are excluded from these calculations.

Self sufficiency has been calculated as:

Production x 100 / Consumption

Potential import/exports has been calculated as:

Production - Consumption.

The tables are arranged in the order of potential of import/exports where exports are positive and imports negative.

TABLE 4.1 THE WORLD MARKET FOR BEEF 1984

	Production '000 tonnes	Consumption '000 tonnes	kg/ capita	Self Sufficiency %	Potential Import/Export '000 tonnes
World	45751	45751	10	100	0
Europe	11045	10414	21	106	631
Oceania	1751	1131	47	155	620
South America	6776	6477	25	105	299
Africa	3028	3300	6	92	-272
USSR	7100	7443	27	95	-343
N/C America	13322	13753	35	97	-431
Asia	2730	3235	1	84	-505

Source: FAO

Table 4.1 shows the considerable surplus of beef which is now available in Europe which exceeds the export potential of the traditional exporting areas in the Southern Hemisphere, Oceania and South America.

In contrast there are major deficiencies in Asia, North and Central America, USSR and Africa.

4.1.1 The Market for Beef in Asia

The very low consumption per capita in most Asian countries is due to tradition, cultural and religious reasons but the oil states of the Middle East, Hong Kong, Singapore and Japan are all deficient in beef and are potential markets for imports which is likely to increase as per capita consumption increases to the levels attained in Europe and North America.

TABLE 4.1.1 ASIA - THE MARKET FOR BEEF 1984

	Production '000 tonnes	Consumption '000 tonnes	kg/ capita	Self Sufficiency %	Potential Import/Export '000 tonnes
Asia	2730	3235	1	84	-505
India	86	56	0	154	30
Indonesia	135	137	1	98	-2
Oman	4	6	6	70	-2
UAE	3	10	10	32	-7
Kuwait	11	19	10	58	-8
China	260	269	0	97	-9
Singapore	0	10	3	0	-10
Hong Kong	37	64	13	58	-27
Saudi Arabia	24	77	7	31	-53
Iraq	34	104	7	33	-70
Iran	165	290	7	57	-125
Japan	534	680	6	78	-146

Source: FAO

4.1.2 The Market for Beef in North and Central America

The USA with a high per capita consumption of 48 kilogrammes per annum had in 1984 the largest overall deficit of any individual country at 409,000 tonnes. The self sufficiency ratio however was only 96% and increasing production could easily eliminate this deficit.

TABLE 4.1.2 NORTH AND CENTRAL AMERICA - THE MARKET FOR BEEF 1984

	Production '000 tonnes	Consumption '000 tonnes	kg/ capita	Self Sufficiency %	Potential Import/Export '000 tonnes
N/C America	13322	13753	35	97	-431
Canada	1000	1000	40	100	0
Trinidad	1	10	10	10	-9
Mexico	780	830	11	94	-50
USA	10927	11336	48	96	-409

Source: FAO

4.1.3 The Market for Beef in USSR

While the USSR is deficient in beef this deficiency is largely made up by imports from other Eastern block countries and the European Economic Community.

4.1.4 The Market for Beef in Africa

Per capita consumption in Africa is six times that in Asia but this is largely home produced and the only deficient countries are mainly in North Africa with some deficiency in Nigeria. The relatively high consumption per head in Libya equivalent to that in European countries is maintained by the importation of live cattle which are slaughtered within the country so that effective self sufficiency is much less than the 73% shown in Table 4.1.4.

TABLE 4.1.4 AFRICA - THE MARKET FOR BEEF 1984

	Production '000 tonnes	Consumption '000 tonnes	kg/ capita	Self Sufficiency %	Potential Import/Export '000 tonnes
Africa	3028	3300	6	92	-272
Botswana	42	20	20	210	22
Madagascar	138	135	13	103	3
Ethiopia	217	217	6	100	0
Kenya	203	203	10	100	0
South Africa	620	620	19	100	0
Sudan	243	243	12	100	0
Algeria	45	62	3	73	-17
Libya	45	62	21	73	-17
Nigeria	225	255	3	88	-30
Egypt	136	299	7	45	-163

Source: FAO

4.1.5 The Market for Beef in South America

While South America is a net exporter of beef this is mainly from three countries, Argentina, Uruguay and Brazil. Table 4.1.5 illustrates the unique position of the meat industry in Uruguay compared to other countries throughout the world. The level of self sufficiency in 1984 when net exports were at the bottom of the cycle was 135%, rather less than other major exporting countries including Australia, the Netherlands, Ireland, New Zealand, Denmark and Botswana. In contrast Uruguay has the highest per capita consumption at 88 kilogrammes per head per annum which is more than four times the average consumption in Europe and nearly twice that in the United States.

TABLE 4.1.5 SOUTH AMERICA - THE MARKET FOR BEEF 1984

	Production '000 tonnes	Consumption '000 tonnes	kg/ capita	Self Sufficiency %	Potential Import/Export '000 tonnes
South America	6776	6477	25	105	299
Argentina	2570	2437	81	105	133
Uruguay	355	263	88	135	92
Brazil	2293	2212	17	104	81

Source: FAO

4.1.6 The Market for Beef in Oceania

Australia with a net export of 449,000 tonnes in 1984 is the largest beef exporting nation. In contrast to Uruguay and other South American countries the disease status is such that Australia and New Zealand can export to the United States and Japan and are more conveniently placed for exports to the Middle East, in particular Iran and Iraq.

TABLE 4.1.6 OCEANIA - THE MARKET FOR BEEF 1984

	Production '000 tonnes	Consumption '000 tonnes	kg/ capita	Self Sufficiency %	Potential Import/Export '000 tonnes
Oceania	1751	1131	47	155	620
Australia	1296	847	53	153	449
New Zealand	442	255	85	173	187

Source: FAO

4.1.7 The Market for Beef in Europe

Europe is now the largest exporter of beef but the individual nations vary very considerably. The data shown in Table 4.1.7 underestimates the actual potential trade as can be seen by comparing this Table with Table 4.4.1. A high proportion of exports from Ireland, France and West Germany are fat cattle ready for slaughter so that imports into the UK and Italy in particular are understated. Despite the self sufficiency of the EEC as a whole Italy is the second largest importer of beef in the world and with a self sufficiency of only 66% this situation is likely to continue for longer than in the USA.

TABLE 4.1.7 EUROPE - THE MARKET FOR BEEF 1984

	Production '000 tonnes	Consumption '000 tonnes	kg/ capita	Self Sufficiency %	Potential Import/Export '000 tonnes
Europe	11045	10414	21	106	631
Netherlands	520	295	21	176	225
Ireland	395	192	48	205	203
West Germany	1567	1374	23	114	193
Denmark	248	128	26	193	120
France	2000	1911	35	105	89
Belgium	300	253	25	119	47
Austria	225	187	23	120	38
UK	1141	1125	20	101	16
Finland	122	108	22	113	14
Sweden	155	141	18	110	14
Norway	76	76	19	101	0
Switzerland	172	184	31	93	-12
Greece	83	200	20	41	-117
Italy	1160	1481	26	78	-321

Source: FAO

4.2 WORLD TRADE AND PRICES

The tables in this paragraph which again have been extracted from the FAO Trade Book for 1984, Volume 38 show the volume of exports and imports in the major countries involved in the meat trade and the prices in $US per metric tonne.

TABLE 4.2 WORLD EXPORT AND IMPORT PRICES 1984

	Exports '000 tonnes	Exports $/tonne	Imports '000 tonnes	Imports $/tonne
World	3380	2058	3380	2088
Asia	79	1293	584	2396
Europe	2027	1955	1396	2363
Oceania	638	2245	18	2250
N/C America	235	3071	666	2036
Africa	45	1724	317	1470
South America	354	1858	55	1274

Source: FAO

There are very considerable differences between the export and import prices of the different regions. While exports from North and Central America average over $3,000 per tonne those from Asia were marginally less than $1,300 per tonne. In contrast imports into North and Central America were only $2,000 per tonne compared to imports into Asia, $2,400 per tonne. These gross figures hide very considerable differences within the different regions as shown in the following paragraphs.

4.2.1 Beef Trade in Asia

The high average cost of imports into Asia are almost entirely due to the high prices paid for imported beef into Japan. While Japan has a very low per capita consumption compared to other developed nations and self sufficiency is still less than 80% this high priced market must be an attractive proposition for potential imports. However it is understood that the disease status of Uruguay precludes exporting to Japan at the present time. In view of the long term potential of this market it is recommended that every effort should be made to meet the regulations. For these reasons this market will not be considered further in this report.

TABLE 4.2.1 ASIA - BEEF IMPORTS AND EXPORTS

	Exports '000 tonnes	Exports $/tonne	Imports '000 tonnes	Imports $/tonne
Asia	79	1293	584	2336
Japan	0	29300	146	3127
Singapore	1	4652	11	2859
China	15	1290	24	2743
UAE	1	3291	7	2717
Indonesia	0	2	2	2633
Hong Kong	0	5116	28	2366
Saudi Arabia	0	0	53	2128
Iraq	0	0	70	2000
Iran	0	0	125	1984
Oman	0	1000	2	1879
Kuwait	0	0	8	1813
India	32	1000	0	0

Source: FAO

4.2.2 Beef trade in Europe

Within Europe the most attractive markets for exporters of beef are Italy, Greece, West Germany, France and the UK where considerable tonnages are still imported albeit mainly from other members of the EEC and the price of imports is above the world level. The average price of exports from Europe is rather less than the price of imports indicating a shortage of a high quality beef.

TABLE 4.2.2 EUROPE - BEEF IMPORTS AND EXPORTS

	Exports '000 tonnes	Exports $/tonne	Imports '000 tonnes	Imports $/tonne
Europe	2027	1955	1396	2363
Switzerland	0	4111	12	3584
Sweden	19	1542	5	3338
Norway	2	956	2	2937
Denmark	126	2288	6	2863
Italy	87	1324	408	2692
Belgium	71	2241	24	2604
Greece	0	1000	117	2442
Netherlands	273	2382	48	2377
West Germany	410	2006	216	2325
France	357	1934	268	2288
UK	161	1916	146	2223
Ireland	210	1955	8	2131
Austria	43	1885	5	2090
Finland	14	1137	0	0

Source: FAO

4.2.3 Beef Trade in Oceania

From Table 4.2.3 it can be seen that the export price realised by Australia and New Zealand was rather in excess of $2.200 per metric tonne in 1984 compared with the Uruguayan price of $1,338 per metric tonne. Australia and New Zealand have the advantage of being able to ship to the US, Japan and Europe due to their disease free status.

TABLE 4.2.3 OCEANIA - BEEF IMPORTS AND EXPORTS

	Exports '000 tonnes	Exports $/tonne	Imports '000 tonnes	Imports $/tonne
Oceania	638	2245	18	2250
Australia	451	2253	2	2540
New Zealand	187	2226	0	4938

Source: FAO

4.2.4 Beef Trade in North and Central America

Within North America it can be seen that the United States exported more beef in 1984 than Uruguay at an average price of $4,625 per tonne compared with an import price for over 500,000 tonnes of $1,987 per tonne.

The relatively high price, almost $2,900 per tonne in 1984, for 9,000 tonnes of beef imported into Trinidad may represent an opportunity to develop a profitable meat export business to countries in the Caribbean with a growing tourist industry.

TABLE 4.2.4 NORTH AND CENTRAL AMERICA - BEEF IMPORTS AND EXPORTS

	Exports '000 tonnes	Exports $/tonne	Imports '000 tonnes	Imports $/tonne
N/C America	235	3071	666	2036
Trinidad	0	2857	9	2897
Canada	78	1893	78	2749
USA	98	4625	506	1987
Mexico	2	3271	52	864

Source: FAO

4.2.5 Beef Trade in Africa

Table 4.2.5 illustrates one of the reasons for the low prices of exports from both Uruguay and Europe where North African countries are importing beef considerably below the average world price. The reason for the low price is twofold. Firstly the beef required in these countries will be of a poorer quality but secondly large quantities of beef from the EEC is now subsidised to remove the so called "Beef Mountain".

The relatively high price of beef exports from Botswana is due to the special dispensation of import levies for ACP countries when exporting to the EEC.

TABLE 4.2.5 AFRICA - BEEF IMPORTS AND EXPORTS

	Exports '000 tonnes	Exports $/tonne	Imports '000 tonnes	Imports $/tonne
Africa	45	1724	317	1470
Egypt	0	0	163	1442
Libya	0	0	17	1353
Algeria	0	0	17	1344
Nigeria	0	0	30	1333
Botswana	22	2000	0	0

Source: FAO

4.2.6 Beef Trade in South America

Table 4.2.6 illustrates the very low price which Uruguay was receiving for beef exports in 1984 compared to the other major South American exporting countries, Argentina and Brazil. The average price received for Uruguayan meat exports in 1984 was less than 60% of the Argentinian price although conditions in terms of disease status, quality and political considerations should have been similar. It could be that the very high consumption of beef in Uruguay is creaming off the more expensive meat cuts leaving only the poorer quality for export. However it will be shown later that export slaughter houses do tend to buy a higher percentage of good quality cattle.

TABLE 4.2.6 SOUTH AMERICA - BEEF IMPORTS AND EXPORTS

	Exports '000 tonnes	Exports $/tonne	Imports '000 tonnes	Imports $/tonne
South America	354	1858	55	1274
Argentina	133	2253	0	0
Brazil	115	1859	34	891
Uruguay	92	1338	0	0

Source: FAO

4.3 CONSUMER INCOMES COMPARED TO BEEF CONSUMPTION

Table 4.3 compares the average gross national product per capita in $US with the beef consumption in kilogrammes per capita per annum. It can be seen that a number of relatively rich countries still have low beef consumption and this particularly applies to Japan and the oil rich nations of the Middle East. These countries provide potentially high value markets which could be exploited.

TABLE 4.3 CONSUMER INCOMES COMPARED TO BEEF CONSUMPTION

	GNP/Capita $US	Consumption kg/Capita
UAE	22300	10
Switzerland	15990	31
USA	15490	48
Kuwait	15410	10
Norway	13750	19
Canada	13140	40
Australia	11890	53
Sweden	11880	18
Denmark	11290	26
West Germany	11090	23
Finland	10830	22
Saudi Arabia	10740	7
Japan	10390	6
France	9860	35
Netherlands	9430	21
Austria	9140	23
UK	8530	20
Belgium	8430	25
Libya	8230	21
Singapore	7260	3
New Zealand	7240	85
Trinidad	7140	10
Italy	6440	26
Hong Kong	6300	13
Oman	6230	6
Ireland	4950	48
Greece	3740	20
Algeria	2380	3
South Africa	2260	19
Argentina	2230	81
Mexico	2060	11
Uruguay	1970	88
Brazil	1710	17
Botswana	910	20
Nigeria	770	3
Egypt	720	7
Indonesia	540	1
Sudan	340	12

Continued ...

TABLE 4.3 CONSUMER INCOMES COMPARED TO BEEF CONSUMPTION (continued)

	GNP/Capita $US	Consumption kg/Capita
China	310	0
Kenya	300	10
Madagascar	270	13
India	260	0
Ethiopia	110	6
USSR	na	27
Iran	na	7
Iraq	na	7

Source: FAO and World Bank Atlas

4.4 THE EUROPEAN MARKET FOR BEEF

It has been shown in paragraphs 4.1. - 4.3 that the areas with the highest potential imports are Japan, the USA and a number of the richer Middle Eastern countries. However the market in Japan is restricted for disease purposes and the US market while initially appearing attractive is relatively low priced and with 96% self sufficiency does not represent a long term opportunity. This study will therefore deal with the European market for beef in more detail as representing a number of opportunities for developing high priced imports.

While the EEC does not represent the whole of the European market it does represent 12 of the largest consumers and the data presented in this paragraph will deal with the EEC market only.

4.4.1 Self Sufficiency in the EEC

Table 4.4.1 shows the production, consumption, self sufficiency and potential imports/exports for the 10 members of the EEC in 1984. Data for Spain and Portugal who have since joined the EEC is not available for this period. This data differs from that presented in Table 4.1.7 above in that animals imported as fat cattle immediately prior to slaughter are shown as produced in the country of origin not in the country of slaughter. Thus over half the exports from Ireland are on the hoof and this acccunts for the increased imports to the UK. Similarly exports from France and West Germany to Italy are largely of partly finished livestock.

TABLE 4.4.1 BEEF PRODUCTION AND CONSUMPTION EEC 1984

	Production	Consumption		Self Sufficiency	Potential Imports/Exports
	'000 tonnes	'000 tonnes	kg/head	%	'000 tonnes
Ireland	504	83	23.5	607.2	Ex 421
France	1703	1383	25.2	123.1	Ex 320
West Germany	1548	1276	20.9	121.3	Ex 272
Denmark	243	64	12.5	379.7	Ex 179
Netherlands	349	246	17.1	141.9	Ex 103
Belgium & Luxembourg	281	220	21.5	127.7	Ex 61
Greece	74	166	16.8	44.6	Im 92
UK	1091	1196	21.2	91.3	Im 105
Italy	827	1249	21.9	66.2	Im 422
Total	6620	5883		112.5	Ex 737

Source: MLC European Handbook

It can be seen from Table 4.4.1 that the EEC are now net exporters of beef and it is their activity in the market which has severely affected Uruguayan meat exports particularly to the Middle East and North Africa in the early 80's.

The only net importers of beef are Italy, the United Kingdom and Greece but while Table 4.4.1 illustrates how West Germany is more than 100% self sufficient in beef and veal a large quantity of beef is also imported each year. Of the 187,500 tonnes of beef imported by West Germany in 1983, 28% originated from non EEC countries, in particular Argentina.

4.4.2 Type and Quality of Beef Imports to the EEC

The majority of countries in the EEC produce beef from the dairy herd which is not necessarily of the quality demanded either for high quality cuts for retail or catering or at the other end of the scale for manufacturing beef. For this reason in 1985 all 10 members of the EEC imported beef of varying qualities from Third Countries as shown in Tables 4.4.2.1 and 4.4.2.2.

TABLE 4.4.2.1 EEC IMPORTS OF BEEF AND VEAL FROM THIRD COUNTRIES 1985 (TONNES CARCASE WEIGHT EQUIVALENT)

	Live Animals	Fresh/ Chilled	Frozen	Salted, Dried Prepared	Total
Italy	58,544	83,098	32,527	14,059	188,228
United Kingdom	41	7,006	46,394	95,450	148,891
West Germany	6,898	29,550	30,523	33,068	100,039
Netherlands	5	86	10,695	6,891	17,677
Greece	5,121	5,995	3,254	341	14,711
France	422	85	9,638	748	10,893
Belgium/Luxembourg	4	680	5,802	1,138	7,624
Denmark	60	9	662	8	739
Irish Republic	-	-	221	-	221
EEC-10	71,095	126,509	139,716	151,703	489,023

Coefficients: Live animals: carcase weight = live weight x 0.50
Boneless: carcase weight = boneless weight x 1.3

Source: Nimexe - Siena/MLC European Handbook Vol II

TABLE 4.4.2.2 EEC IMPORTS OF BEEF AND VEAL FROM SELECTED THIRD COUNTRIES 1985 (TONNES CARCASE WEIGHT EQUIVALENT)

	Live Animals	Fresh/ Chilled	Frozen	Salted, Dried Prepared	Total
Other European	71,028	96,534	12,889	24,401	204,853
Africa	4	9,182	15,999	12,278	37,466
North America	66	134	1,000	1,144	2,344
Central/S. America	-	18,422	105,385	111,128	234,935
Brazil	-	101	66,592	94,640	161,333
Argentina	-	17,354	22,440	13,212	53,006
Uruguay	-	958	15,551	3,234	19,743
Asia	-	-	103	74	177
Oceania	1	2,233	4,330	2,657	9,231
Total	71,097	126,513	139,722	151,705	489,037

Coefficients: Live animals: carcase weight = liveweight x 0.50
Boneless: carcase weight = boneless weight x 1.3

Source: Nimexe - Siena/MLC European Handbook Vol II

For geographical and health reasons Uruguay cannot export live animals to the EEC.

The exportation of chilled meat by sea is not practicable and the cost of air freight can only be justified for high price cuts. Of the beef supplied

by Argentina to West Germany in 1983 12,800 tonnes were in the form of frozen boneless cuts and 11,300 tonnes in the form of fresh/chilled boneless cuts. Argentinian steaks are preferred in West Germany and traders have been prepared to pay a premium which will be a reason for the premiums obtained for Argentinian exports compared to Uruguay.

Uruguayan exports therefore to a large extent are limited to frozen boneless meat and salted, dried and prepared products which together account for approximately 60% of EEC beef and veal imports. Within this sector of the market the United Kingdom accounts for 49% of the total EEC imports from Third Countries.

Salted, dried and prepared meats which include corned beef and "cooked, frozen beef" constitute the largest product group for imports into the EEC. The UK is responsible for over 60% of these imports mainly as corned beef where imports in 1981 ammounted to 67,000 tonnes equivalent to over 100,000 tonnes carcase weight. A third of West German imports in this category are from South America and included cooked frozen and corned beef.

4.4.3 Import Duties and Levies Applied to Imports from Third Countries to the EEC

4.4.3.1 Custom Duties

All categories of cattle, calves, beef and veal are subject to customs duties when imported to the EEC. The actual rate of duty however depends on the type of meat and varies with different schemes and quotas and are shown at Appendix 2.

From the point of view of this report the most important duty is the 26% levelled on processed meat products.

4.4.3.2 Variable Import Levies

In addition to customs duties, which are fixed and permanent, most categories of cattle and beef are subject to variable import levies.

The variable import levy is designed to make up the difference between non-EEC and EEC prices The calculation is based on the figure obtained by deducting the EEC import price plus customs duty (the duty paid import price) from the EEC guide price. Import levies can only be changed by the EEC Commission with effect from the first Monday in the month. There are several basic levy calculations according to the country of origin and type of meat.

The levies on frozen beef and veal affect imports from Uruguay and are calculated by deducting the duty-paid import price for frozen beef and veal car ases and a further standard amount representing additional importation cos:s, from the EEC guide price multiplied by a factor of 1.69. This factor reflects the relative value between live cattle and frozen beef carcases.

The frozen beef import price is calculated monthly from import price data, with account also being taken of the world market prices for frozen beef.

Here also, coefficients are applied to the frozen carcase figure to derive levies payable on imports of different categories of frozen beef and veal.

A percentage of the variable import levy, as derived above, is then applied depending on the weekly relationship between the "EEC reference price" and the "EEC guide price". (For an explanation of EEC guide and reference prices see Appendix 3.) The rates of levy which correspond to the reference/guide price relationship vary between nil when the ratio exceeds 106% and 114% when the ratio is less than 90%. However since 20 May 1982 the 114% levy has applied because of the continuously low level of the reference price compared with the guide price.

The levy for frozen beef may be fixed between 75% and 100% of the basic levy.

The net import levy for each member state is derived by converting the gross levies set in ECU by the green rate, multiplying by the monetary coefficient and adjusting by the Monetary Compensatory Amounts where applicable. (For an explanation of "ECU", "Green Rates" and "Monetary Compensation Amounts" see Appendix 4.)

The following example shows the calculation of the levy on frozen beef in November 1986 from Uruguay imported to the UK.

TABLE 4.4.3.2 UK NET IMPORT LEVIES PAYABLE ON FROZEN BEEF FROM ALL SOURCES EXCEPT ACP STATES, IN WEEK COMMENCING 3 NOVEMBER 1986

EEC cattle guide price		205.02 ECU/100 kg
EEC reference price		144.06 ECU/100 kg
Rate of levy applied		114%
Customs duty		20%
EEC guide price for frozen carcases		346.484 ECU/100 kg (205.02 x 1.69)
Import price for frozen carcases		157.00 ECU/100 kg
Duty-paid import price		157.00 x 120%
Basic frozen carcase import levy	=	346.484 - (157.00 x 120%) + 6.65
	=	346.484 - 195.05
	=	161.434 ECU/100 kg

	Coeff	Basic Levy ECU/100 kg (xcoeff)	Gross Levy (x114%) ECU/100 kg	Divide by green rate (1.57325) p/kg	Multiply by mon coeff (1.257) p/kg	MCA p/kg	Net UK Import Levy p/kg
Frozen Carcase	1.00	151.434	172.635	109.731	37.932	(43.299)	94.633
Frozen Boneless Cuts	1.25	189.293	215.794	137.164	174.415	(54.124)	118.291

Source: MLC

Table 4.4.3.3 summarises the effect of customs duties and import levies on the landed price of frozen beef carcases in November 1986.

TABLE 4.4.3.3 EFFECT OF CUSTOMS DUTIES AND IMPORT LEVIES ON LANDED PRICE OF FROZEN BEEF CARCASES - NOVEMBER 1986

	ECU/100 kg	%
Landed Price	157.00	100.00
Customs Duty 20%	31.40	20.00
Duty Paid	188.40	120.00
Basic Levy	151.434	96.45
Gross Levy (Basic x 114%)	215.794	137.42
Total Price	404.194	257.45

Thus the effect of import levies and customs duties is to inflate the cost of imported beef prices to above the EEC guide price (346.484 ECU/100 kg) although the ECC reference price is 70% of the guide price.

4.4.4 Concessionary Import Schemes

Since April 1977 import levies have been high amounting in some cases to 100% of the purchase price of the product in world markets. This means that imports to the EEC of most categories of cattle, calves and fresh, chilled or frozen beef and veal have been made using the various concessionary import schemes under which special rates of levy or duty apply.

The following schemes apply to imports from Uruguay.

4.4.4.1 Manufacturing Beef Balance Sheet

At the end of each year the EEC Commission makes an estimate for the following year of the Community's requirement of imported beef of manufacturing grade from non-EEC countries. This estimate is based on an assessment of the various sources of domestic and imported beef in relation to the estimated need for manufacturing grade beef in the EEC.

The estimate of beef requirement to be imported for use in manufacturing in 1986 is as shown in Table 4.4.4.1.

TABLE 4.4.4.1 ESTIMATED IMPORTED BEEF REQUIREMENT

	Tonnes (bone-in equivalent)
EEC Production	1,124,000
Usage from Intervention Stocks	288,000
Usage from Private Stores	20,000
Imports under ACP Scheme	8,000
Imports under GATT	7,000
Total Supplies	1,447,000
Total Requirement	1,260,250
Balance to be Imported Under the Balance Sheet	25,000 tonnes (boneless)

For several years it has been the opinion of the EEC Commission that imports under this scheme should not be necessary in view of the domestic beef supply situation ie. total beef supplies are generally higher than total requirement. However because of diplomatic objections it is not possible to stop importing beef suddenly from the traditional suppliers under the Balance Sheet Scheme. After consultation the 1985 annual quota was therefore reduced from 60,000 tonnes to 50,000 tonnes. In 1986 the quota was further reduced to 25,000 tonnes in exchange for an additional high quality cuts quota of 6,000 tonnes.

The beef imported under this scheme may be in the form of either frozen bone-in forequarters or frozen boneless cuts (CCT headings 02.01 AII b) and 02.01 AII b)4bb) and can be used in two types of processed products.

System A. Preserved beef products falling under CCT heading 16.02 BIII b)1bb) which contain at least 85% beef and jelly and at least 20% lean beef. However since July 1984 products which have been processed in a retail or catering establishment and offered for sale to the consumer are not included.

Beef imported under System A is subject to a nil rate of import levy but is still subject to customs duty.

System B. Most cooked processed beef products, other than System A products.

Beef imported under System B is subject to both a reduced rate of import levy up to a maximum of 45% of the normal rate and the normal customs duty.

In 1985 the annual quota was split equally between System A and System B. However in 1986 two-thirds of the annual quota is to be allocated to the processing of System A type products.

The annual Manufacturing Beef Balance Sheet quota is determined by the EEC Council of Ministers and allocated quarterly by the Management Committee. Applications for import licences are usually invited to be submitted in the first 10 days of the quarter. Only companies which have been engaged in the

manufacturing or processing of meat for at least a year may apply for licences but there is provision to transfer licences to importers (Commission Regulation 1136/79). In recent years applications to import beef under System A have exceeded the quotas for the individual quarters so that when the applications are adjudicated a reduction factor is applied so that a licence is issued for a percentage of the amounts applied for. Applications to import beef under System B have generally amounted to less than the quota and licences have been granted in full.

At the time of importation or release from a Customs warehouse a written declaration is required stating that the frozen beef imported is intended for use in the United Kingdom for the manufacture of preserved food (System A) or for processing (System B). A security has to be lodged equal to the suspended levy. This security is released when proof is provided, within 7 months of the month of import, that the frozen beef has been put to the intended use within 3 months of the month of import. The manufacturer must also undertake to pay failing satisfactory proof of the above an additional amount equal to the difference between the levy applicable on the day of import and the end of the seventh month following that day, should the latter be the higher.

TABLE 4.4.4.1.1 EEC IMPORTS UNDER THE MANUFACTURING BEEF BALANCE SHEET (TONNES)

	System A			System B		
	Total	UK	%	Total	UK	%
1981	29,999	10,768	36	29,999	943	3
1982	30,000	12,708	42	30,000	1,020	3
1983	30,000	15,982	52	27,492	467	2
1984	25,000	15,293	61	10,396	130	1
1985	24,998	15,030	60	13,333	5	-

It can be seen from Table 4.4.4.1 that there is a demand for approximately 15,000 tonnes of beef in the UK to manufacture products under CCT heading 16.02 B III 1bb which are defined as "Other prepared or preserved meat or meat offal" including cooked products.

If the EEC Commission further reduces the quota of manufacturing meat then UK companies may not be able to profitably produce prepared dishes and this may represent an opportunity for Uruguayan companies to manufacture under licence. These types of products would only be subject to 26% customs duty so that these should be very competitive with products manufactured using EEC produced beef.

4.4.4.2 GATT Quotas

The following two schemes have been agreed under the General Agreement on Tariffs and Trade. The total quantities to be imported are fixed by the GATT process but the procedure and detailed rules are agreed and administered each year by the EEC Council of Ministers.

4.4.4.2.1 Frozen Beef and Veal

Under this scheme, usually referred to as the "GATT quota", the EEC has agreed to import 50,000 tonnes (boneless equivalent) of frozen beef annually subject only to customs duty (20%) but not to any variable import levy (no MCA's are applicable either). The total quota is allocated between member states negotiated annually. For 1986 the allocation is as follows:- (see Council Regulation 193/86).

TABLE 4.4.4.2.1 - GATT QUOTA TONNES (BONELESS EQUIVALENT)

United Kingdom	13,680
Italy	13,180
West Germany	9,645
France	5,575
Benelux	4,765
Greece	2,430
Irish Republic	455
Denmark	270
Spain	nil
Total	50,000

Three countries, the UK, Italy and West Germany account for 73% of imports.

Each member state administers its own share of the GATT quota and should any state fail to allocate all its share, there is provision to reallocate between countries.

In the United Kingdom about 30% of the quota is allocated to government departments and local authorities. The remaining quantity is allocated direct to traders in relation to their performance during a two year period. In 1986 the reference period for assessment of performance is 1 October 1983 to 30 September 1985.

70% of the quantity available to the private sector is allocated in relation to eligible imports of frozen beef and veal from Third Countries, 20% is allocated in relation to eligible exports of fresh, chilled and frozen beef and veal to non-EEC countries, and 10% is allocated in relation to purchases of beef from UK intervention stores (except for purchases under sales directly linked to export requirements which would be covered by the allocation for exports). Thus there is limited opportunity for new traders or manufacturers to handle this meat directly.

4.4.4.2.2 High Quality Cuts

This scheme has operated since 1981. An annual quota of high quality bone-in and boneless cuts may be imported from certain non-EEC countries at the full customs duty of 20% but not subject to variable import levies. Monetary Compensatory Amounts are however applied. The quantities are as follows:-

	Tonnes (product weight)
North America	10,000
Argentina	12,500
Australia	5,000
Uruguay	2,300

The detailed rules pertaining to imports under this scheme are set out in Commission Regulation 3655/85.

The beef from Uruguay is allocated and administered by the Instituto Nacional de Carnes in Uruguay (INAC). The following is a summary of the specifications of meat that can be imported under this scheme from Uruguay.

The 2,300 tonnes of high quality cuts to be imported shall be boneless fresh, chilled or frozen meat, falling within CCT subheading 02.01 A II a) 4bb) and 02.01 A II b) 4bb) 33 answering the following definition:

"Special or good quality beef cuts obtained from exclusively pasture-grazed animals presenting a slaughter liveweight not exceeding 460 kg, referred to as "special boxed beef". These cuts may bear the letters 'sc' (special cuts)".

4.4.4.3 Autonomous High Quality Cuts Quota

Two autonomous import quota for 6,000 tonnes and 8,000 tonnes of high quality beef were opened for 1986 to compensate for the reduction in the Manufacturing Beef Balance Sheet quota from 50,000 tonnes to 25,000 tonnes and following the export of EEC beef to Brazil. These schemes operate in addition to and in the same way as the High Quality Cuts Scheme that has operated since 1981. However these additional quotas were not agreed within the General Agreement on Tariffs and Trade and so there is no obligation to renew it after 1986.

The countries from which beef may be imported are:-

TABLE 4.4.4.3 AUTONOMOUS HIGH QUALITY CUTS QUOTA

	Tonnes (product weight)	
Argentina	2,500	2,000
Australia	680	-
Uruguay	1,000	1,000
Brazil	1,650	5,000
New Zealand	170	-
Total	6,000	8,000

The much higher import prices attained by Argentina compared to Uruguay (Table 4.2.6) will be partly explained by the higher quota of high quality cuts enjoyed by Argentina (17,000 tonnes) compared to Uruguay (4,300 tonnes).

Beef imported under this scheme from Uruguay must meet the same specifications as paragraph 4.4.4.2.2 above .

4.4.4.4 Summary of Concessionary Import Scheme applicable to Imports to the EEC from Uruguay

Table 4.4.4.4 summarises the concessionary import scheme under which Uruguay can export beef to the EEC.

TABLE 4.4.4.4 EEC CONCESSIONARY IMPORT ARRANGEMENTS FOR BEEF AND VEAL APPLICABLE TO URUGUAY

Categories	Quantities involved (per annum)	Non-EEC Limitation	Levy	UK Duty	Other Factors
GATT Quotas					
1. Frozen beef and veal	50,000 tonnes (boneless)	Non-EEC countries	Nil	Full	MCAs not applied Quota is divided between member states and allocated nationally
2. Fresh, chilled or frozen beef and veal (High Quality Cuts)	29,800 tonnes (boneless)	Uruguay (2,300 tonnes)	Nil	Full	Allocations by INAC
Manufacturing Balance Sheet					
Frozen fore-quarters and boneless cuts for manufacturing use	Subject to assessment each year 25,000 tonnes (bone-in equivalent) in 1986	Non-EEC countries	System A Full Nil System B Full 45% of gross levy in 1986		Two schemes operate for different sorts of manufactured products. Applications made for each quarterly allocation
Autonomous High Quality Cuts Quota					
Fresh/chilled or frozen beef and veal (High Quality Cuts)	14,000 tonnes in 1986	Uruguay (2,000 tonnes)	Nil	20%	Autonomous quota for 1986 only

From Table 4.4.4.4 it can be seen that the opportunities for exporting the meat from Uruguay to the EEC under the concessionary import schemes are

severely limited or competitive. These opportunities are well known to exporters and this consultant has therefore attempted to find markets where meat can be profitably exported independently of these schemes. This limits exports to the EEC to products falling into Common Custom Tariff Number Category.

16.02 Other prepared or preserved meat or meat offal:

B Other
III Other
I Containing beef and veal or offal
bb) Other

Thus exports are limited to cooked products which are only subject to import duties at 26%.

4.4.5 Major Imports to the EEC

It has been shown in paragraphs 4.4.2 and 4.4.3 above that while the EEC is self sufficient for beef specific countries and in particular Italy, the UK and West Germany import significant quantities of meat. 74% of imports to Italy from countries outside the EEC are either live animals or fresh chilled meat required for the retail trade.

As can be seen from Table 4.4.5 below imports to West Germany from South America have increased marginally from 35,000 tonnes in 1977 to 37,000 tonnes in 1983 representing an increase from 16% to 20% of the total market. The major change has been the increase in fresh chilled boneless cuts from Argentina which are used for the catering trade, in particular steak houses, who prefer to pay a premium for the quality meats. Any further increase in this sector of the market will be subject to levy at the full rate.

TABLE 4.4.5 IMPORTS OF BEEF AND VEAL (TONNES) TO WEST GERMANY

	1977	%	1983	%
Fresh and Chilled				
Beef carcases/half carcases	8,235	4	1,971	1
Beef forequarters	74,678	35	56,405	30
Beef hindquarters	3,469	2	5,465	3
Other bone-in beef	1,808	1	4,168	2
Boneless beef cuts	17,367	8	36,990	20
of which: Argentina	4,481	2	11,268	6
Veal	44,205	21	25,922	14
Total: fresh, chilled	149,761	70	130,920	70
Frozen				
Beef forequarters	6,796	3	6,283	3
Boneless cuts	56,174	26	49,910	27
of which: Brazil	2,004	1	10,271	5
Uruguay	1,613	1	2,877	2
Argentina	26,874	13	12,824	7
Total: frozen	63,620	30	56,605	30
of which: Brazil	2,004	1	10,272	5
Uruguay	1,613	1	2,877	2
Argentina	26,874	13	12,835	7
Total Beef and Veal				
Fresh, chilled and frozen	213,381	100	187,525	100
of which: Brazil	2,004	1	10,372	6
Argentina	31,407	15	24,103	13
Total Imports from EEC	174,737	81	135,662	72
Total Imports from Non-EEC Countries	38,644	18	51,863	28

Source: West German Trade Return/MLC The West German Market for Meat Jan 1985

The only major opportunities therefore are in the United Kingdom where there is a shortfall of manufacturing meat.

4.5 THE UK MARKET FOR BEEF

Table 4.5 illustrates the changes in the UK for beef market over the period 1979 - 1984.

TABLE 4.5 THE UK MARKET FOR BEEF

United Kingdom	1979	1980	1981	1982	1983	1984
Slaughterings ('000 head)	3,927	4,133	3,883	3,535	3,811	4,163
Average Carcase Weight (kg)	266	267	268	272	275	274
Slaughtered Production ('000 tonnes)	1,046	1,103	1,053	961	1,046	1,141
Live Imports ('000 tonnes) (a)	36	45	28	27	44	56
Live Exports ('000 tonnes) (a)	36	18	25	15	5	6
Indigenous Production ('000 tonnes)	1,046	1,076	1,050	949	1,007	1,091
Exports ('000 tonnes) (a)	108	164	150	130	202	214
Imports ('000 tonnes) (a)	422	348	342	322	325	312
Consumption ('000 tonnes)	1,369	1,280	1,265	1,153	1,174	1,196
Consumption per head (kg per year)	24.2	22.6	22.3	20.0	20.7	21.2
Self Sufficiency (%)	76.4	84.1	83.0	82.3	85.8	91.3

(a) Dressed carcase weight equivalent. Includes canned meat and meat preparations.

Source: MLC European Handbook Vol II.

UK beef production increased over the period 1979 to 1984 by 95,000 tonnes (9%) against a fall in consumption of 173,000 tonnes (12.5%). This resulted in an increase in self sufficiency from 76.4% to 91.3%. In the long term with the ever increasing pressure from the EEC to discontinue milk production it is unlikely that this trend will be reversed.

While exports have almost doubled increasing from 108,000 tonnes to 214,000 tonnes imports, other than live animals, have fallen from 422,000 tonnes to 312,000 tonnes in 1984 including canned meat and prepared meats.

4.5.1 United Kingdom Imports of Beef and Veal

Table 4.5.1 shows the United Kingdom imports of beef and veal over the period 1981 - 1985 excluding canned and preserved meats.

TABLE 4.5.1 UNITED KINGDOM IMPORTS OF BEEF AND VEAL

		1981	1982	1983	1984	1985
		'000 tonnes				
EEC		145.3	132.3	125.9	112.7	111.9
Non EEC		38.2	43.4	44.2	35.7	41.6
of which from:	Botswana	4.9	8.9	10.2	6.6	8.9
	Brazil	1.9	8.3	17.4	16.0	15.2
	Uruguay	2.9	3.3	6.7	8.0	10.8
	Australia	5.5	8.4	5.2	3.0	4.4
Total Beef and Veal		183.5	175.7	170.1	148.4	153.4

Source: MLC European Handbook Vol II

It can be seen from Table 4.5.1 that against a total fall in imports of approximately 30,000 tonnes imports from Uruguay have grown from 3,000 tonnes to 11,000 tonnes per annum.

4.5.2 The UK Market for Processed Beef Products

It has been shown in the previous paragraphs that the only opportunity for importing beef into the UK other than as part of the concessionary schemes and relatively free of unacceptable levies is as cooked processed meats. This section of the report therefore deals with the UK market for processed beef products and is based on an MLC Report, The Supply of Beef to Meat Manufacturers, published in February 1983 with additional new data made available in December 1986.

4.5.2.1 The Demand for Processed Beef Products

Graph 4.5.2.1 illustrates the 83% increase in demand for frozen meat products in the ten year period 1974 to 1984 and compares this with the 22% fall in demand for carcase meat and 9% fall in all meat and meat products.

Table 4.5.2.1 again indicates the very considerable increase in demand for frozen convenience meats compared to all other meat products.

TABLE 4.5.2.1 CHANGES IN DEMAND 1974 - 1984 (a)

	1974	1977	1981	1982	1983	1984
Frozen convenience meats	100	124	164	173	178	183
Other meat products	100	103	111	111	110	111
Broiler chicken	100	109	113	111	108	106
Meat pies and sausage rolls (b)	100	102	104	103	102	100
Corned meat	100	103	105	101	99	97
All meat and meat products (c)	100	100	99	97	94	91
Beef sausages	100	101	98	96	92	89
Bacon and ham, uncooked	100	97	98	94	86	87
Other cooked meat	100	87	77	80	82	83
Carcase meat	100	98	95	91	86	78
Pork sausages	100	83	72	69	68	63
Other canned meat	100	82	58	54	51	48

(a) Five year moving average
(b) Meat pies (except cold, ready to eat varieties) pasties, puddings, spreads, liver sausage, rissoles, haslet, black pudding, faggots. haggis, hog's pudding, polony, scotch eggs, ready meals (not frozen).
(c) Some meat and meat products are not are not shown in this table.

Source: National Food Survey, MLC.

It can be seen that frozen convenience meals are growing more rapidly than any other meat product and in that it is possible to import these products ready for consumption with only 26% customs duty if the meat is precooked this product group will be examined in detail.

4.5.2.2 Consumption of Processed Beef Products in the United Kingdom

An estimated 681,300 tonnes of processed beef products were consumed in the UK in 1985 as shown in Table 4.5.2.2.

TABLE 4.5.2.2 CONSUMPTION OF PROCESSED BEEF PRODUCTS IN THE UNITED KINGDOM ('000 TONNES PRODUCT WEIGHT)

	1977	1981	1982	1983	1984	1985
Beef sausages	168	176.0	177.1	189.0	176.0	176.0
All frozen convenience meats or meat products	114.9	118.7	146.9	131.1	153.6	175.1
Meat pies	123.0	124.5	134.7	142.3	126.7	121.0
Canned meat (other than corned)	89.0	85.5	80.8	87.5	76.8	88.2
Corned beef	60.0	51.0	57.4	63.0	58.2	58.2
Other meat products	27.8	32.0	31.4	32.6	33.2	32.0
Ready meals with meat	6.0	8.0	8.2	9.2	11.8	9.7
Other cooked meat (not cans)	9.4	8.8	9.3	8.8	8.6	9.0
Delicatessen sausages	4.3	8.8	8.2	8.5	8.5	8.5
Meat pastes	4.0	4.5	4.1	3.6	3.6	3.6
Total	606.4	617.8	658.1	675.6	659.0	681.3

Source: MLC estimates based on National Food Survey information.

In 1985 frozen convenience meals with a total consumption of 175,100 tonnes product weight per annum were the second largest category of processed beef products in the United Kingdom.

4.5.2.3 Forecast Consumption of Processed Beef Products in the United Kingdom to 1995

Table 4.5.2.3 shows the MLC estimated forecast based on National Food Survey information for Processed Beef Products in the United Kingdom to 1995.

TABLE 4.5.2.3 FORECAST OF UNITED KINGDOM CONSUMPTION OF PROCESSED BEEF PRODUCTS IN 1990 AND 1995 ('000 TONNES PRODUCT WEIGHT)

	1985 Total	1990 Total	1995 Total
All frozen convenience meats or meat products	175.1	190.0	210.0
Sausages (beef and mixtures)	176.0	180.0	185.0
Meat pies	121.0	118.0	113.0
Canned meat (other than corned)	88.2	82.0	75.0
Corned beef	58.2	57.0	57.0
Other meat products	32.0	33.0	34.0
Ready meals with meat	9.7	13.0	16.0
Delicatessen	8.5	9.5	10.5
Other cooked meat (not in cans)	9.0	8.6	8.3
Meat pastes	3.6	3.5	3.4
Total	681.3	694.6	712.2

Source: MLC estimates based on National Food Survey information

Thus while the MLC are forecasting a total increase in the processed beef products market of rather less than 31,000 tonnes they anticipate the frozen convenience meat market growing by 35,000 tonnes to become the largest single sector of the market.

4.5.2.4 Beef Utilisation in the Manufacture of Processed Beef Products

Table 4.5.2.4 compares the beef utilised in each of the processed beef products in 1985.

TABLE 4.5.2.4 BEEF UTILISATION IN PROCESSED MEAT PRODUCTS 1985

	Consumption '000 tonnes product weight	Beef Utilisation '000 tonnes carcase equivalent
Sausages (beef and mixtures)	176.0	40.5
Frozen convenience meats*	175.1	111.1
Meat pies	121.0	23.0
Canned meat (other than corned)	88.2	46.4
Corned beef	58.2	86.6
Other meat products	32.0	30.4
Meat pies and sausages ready to eat	18.0	1.4
Other cooked meat (not in consumer-sized cans)	9.0	11.0
Delicatessen sausages	8.5	3.6
Ready meals with meat	9.7	5.6
Meat pastes	3.6	1.8
Total	681.3	360.0

* Except frozen sausages

Source: MLC estimates based on National Food Survey information

The beef equivalent in these products accounts for about 30% of total beef consumption in meat products.

UK processors account for an estimated three-quarters of the processed beef products market, with imports at the present time being confined to one or two specific sectors such as corned beef and delicatessen products.

Processors in this sector have had to face considerable difficulties in recent years. The processing sector is undergoing technological change, particularly in such areas as re-formed meat products. In spite of differences of emphasis and product mix, many of the points discussed in this paragraph are applicable to beef processors in other EEC countries as well as to UK processors.

The consumption of processed beef products is unlikely to increase very substantially in the immediate future although there will be significant declines in some products, offset by marked increases for others.

A major reason for the lack of growth forecast in consumption is the likelihood that the manufacturing beef price will remain relatively high compared with other beef and other meat prices. The result is that the end price of processed beef products is likely to be relatively high by historical standards compared with other competing products such as butchers' beef, processed poultry products etc.

While frozen convenience meats excluding frozen sausages account for 26% of beef product consumption, 31% of beef used for manufacturing is utilised in these products. Assuming the same ratio of meat to product ie. approximately 63.5% the 111,000 tonnes required in 1985 will have grown to 133,000 tonnes carcase weight equivalent in 1995.

In 1985 frozen convenience meals accounted for rather more than 9% of beef consumption. Assuming the forecast shown above and static total beef consumption by 1995 frozen convenience meals will account for 11% of beef consumption.

4.5.3 The UK Market for frozen convenience meals

Until 1981 the National Food Survey monitored the breakdown of the frozen convenience meals sector on an annual basis. Unfortunately this data is no longer collected and Table 4.5.3, which shows the breakdown in 1981, will be very inaccurate as technological, consumer and nutritional changes in the last six years have led to major changes in the product mix.

TABLE 4.5.3 BEEF BASED FROZEN CONVENIENCE MEATS AND MEAT PRODUCTS 1981

	'000 tonnes	%
Beefburgers	59.0	50
Cornish Pasties and Sausage Rolls	19.0	16
Meat Pies	18.0	15
Steaklets	4.5	4
Potato-based pies	4.0	3
Rissoles	3.5	3
Pancakes	3.5	3
Roast Beef and Gravy	3.0	3
Ready meals	2.2	2
Savoury Meat Flan	2.0	2
Total	118.7	101

Source: MLC

By 1985 the total market had grown to 175,100 tonnes, of which 75,000 tonnes were beefburgers. The market therefore for all other frozen convenience meals had grown in the four years from 1981 to 1985 from 59,000 tonnes to 100,000 tonnes.

4.6 THE UK FROZEN FOOD MARKET

Frozen convenience meals are an integral part of the frozen food market as distinct from the meat market and in fact a number of the most important ranges, particularly of ready meals, contain products from other product groups ie fish and vegetables. The following paragraph describes the UK frozen foods market so that the product group can be seen in the total marketing context.

The data discussed in this paragraph has been drawn in large part from the 1986 Annual Reports of the two largest frozen food manufacturers in the UK, Birds Eye Walls an operating company of Unilever and Ross Foods latterly of Imperial Foods and now a subidary of Hanson Trust. For commercial reasons the companies tend to use slightly different definitions, although most of the data has been obtained from AGB Surveys of the Consumer Market.

4.6.1 The Total UK Frozen Foods Market

Table 4.6.1 shows the increase in the in-home and catering frozen food markets in £million at current prices since 1980.

TABLE 4.6.1 UK FROZEN FOOD EXPENDITURE 1980-1985 £MILLION AT CURRENT PRICES

	In-Home	Catering	Total
1980	869	230	1099
1981	1002	237	1239
1982	1157	228	1385
1983	1259	238	1497
1984	1433	248	1681
1985	1566	262	1828

Source: Birds Eye Walls

It can be seen that the in-home market has almost doubled in the six year period 1980 to 1985 while the increase in the catering market has only been marginal and barely equates to inflation.

4.6.2 The Consumer Market for Frozen Foods

Table 4.6.2 shows the growth in volume and value of the consumer market from 1980 to 1985 with a projection to 1988.

TABLE 4.6.2 THE CONSUMER MARKET FOR FROZEN FOODS

	Volume		Value		£/ton
	'000 tons	% increase	£M	% increase	
1980	590	5	780	16	1322
1981	688	16	939	20	1365
1982	797	16	1136	21	1425
1983	850	7	1220	7	1435
1984	888	4	1377	13	1551
1985	982	8	1531	9	1559
Forecast					
1988	1100	-	2000	-	1818

Note: Excludes Poultry and Ice Cream

Source: Ross Foods - AGB

Consumer expenditure on frozen food has been growing as a percentage of total expenditure on food and in 1985 reached 5.4% of total food expenditure, compared to only 3.8% in 1980. Average consumption of frozen food per capita in the UK is now 20.9kg a year.

Factors influencing the growth of the frozen food market include the growing emphasis on convenience and ease of preparation which is borne out by increased freezer and microwave penetration. 74.5% of UK households now own a freezer and microwave sales have increased so dramatically in 1986 that 20% of households own a microwave, compared with only 14% in 1985.

The smaller average size of the household and the higher percentage of working women has contributed to the decline in formal eating occasions spelling continued success for individual portion meals and snacks.

4.6.3 The Product Mix

The overall trend of the frozen food market (including catering) in 1985 was one of continual growth in most areas with major expansion occurring specifically in the prepared meals sector. The total sterling growth in the prepared meals was 38% and this followed a 21% growth in 1984. The meals market was worth £234M in 1985. Table 4.6.3 shows the rapidly growing importance of prepared meals within the in-home market in sterling terms with the volume change.

TABLE 4.6.3 THE IN-HOME MARKET

	£ Millions 1984	£ Millions 1985	Sterling Change %	Volume Change %
Prepared Meals	169	234	+38.5	+31.1
Green Vegetables	263	303	+15.2	+14.1
Chips	109	85	-22.0	+7.5
Potato Products	24	25	+4.2	0.0
Burgers and Grills	182	184	+1.1	+1.2
Pies	63	72	+14.3	+10.1
Other Meat and Pastry Products	68	67	-1.5	-1.9
Pizza	68	71	+4.4	+4.1
Coated Fish	195	208	+6.7	+1.9
Other Fish	156	176	+12.8	+1.2
Cakes and Desserts	120	125	+4.2	-0.4
Other Products	16	16	N/C	-4.2
Total	1433	1566	+9.3	+8.8

Source: Birds Eye Walls

Consumer interest in variety and interesting ingredients is clearly shown in the growth of both meat and fish ready meals. This is allied with the success of products which have a perceived healthy profile with low fat and no additives.

4.6.3.1 Prepared Meals

Between 1984 and 1985 Prepared Meals improved from the 4th to the 2nd largest sector of the Frozen Food market.

Birds Eye, the market leaders in the prepared meals sector with 37% of the market, market a range of prepared meals which they categorise as shown in Table 4.6.3.1.

TABLE 4.6.3.1 PREPARED MEALS - 1985

Traditional meals	£82 million
International meals	£67 million
Fish in sauce	£44 million
Fish recipe	£41 million
Total	£234 million

Birds Eye therefore estimate that the total prepared meals based on ingredients other than fish was worth £149 million in 1985. On the other hand, as shown in Table 4.6.4 below, Ross Foods estimate the ready meals included in the meat market were worth £119 million in 1985.

Of particular importance in the context of the present report has been the rapid increase of recipe dishes containing fish in addition to the strong growth of speciality fish products with added value and an up market image. The growth of this range however may be limited in the short term due to the lack of suitable raw materials and it may therefore be possible to exploit a range of high quality up-market meat products.

4.6.4 The Frozen Meat Market

The total frozen meat market includes carcase meat and offals but this is normally excluded from the data when discussed in the context of the frozen foods market and this practice has been continued in this report. Table 4.6.4 therefore shows the percentage breakdown of frozen meat products in 1985 in Great Britain (ie excluding Northern Ireland).

TABLE 4.6.4 THE MARKET FOR FROZEN MEAT PRODUCTS (GB) 1985

	£M	%
Burgers, Grills and Steaklets	186	35.7
Meat and Poultry Pies and Pastry Products	132	25.4
Ready Meals	119	22.8
Pizza	59	11.3
Others	25	4.8
Total	521	100

Source: Ross Food - AGB

Four product groups account for over 95% of the total value of the market but pastry products and pizzas have a very low meat content and pastry products in particular are relatively fragile and are not suitable for importation from Uruguay and so will not be dealt with further in this report.

4.6.4.1 Burgers, Grills and Steaklets

The total market for burgers, grills and steaklets as shown in Table 4.6.3 above has reached a plateau at approximately £184m and is well supplied by UK manufacturers. The products are not cooked and are therefore unsuitable for importation from Uruguay. They do however provide competition to high quality precooked steaks which could be imported from Uruguay and for this reason these products are discussed in this paragraph and were purchased in the shop survey carried out as part of this project and discussed in paragraph 4.7 below.

There has been a decline in the demand for traditional commodity products including burgers but this has been offset to a certain extent by a switch to grill steak products with a firmer texture and of greater appeal to adults. Grill steaks are produced from manufacturing quality beef by flaking and reforming. They have a better texture than burgers and a lower fat content and therefore appeal to the adult market.

Birds Eye, who have been market leaders since the launch of Steaklets 27 years ago, have amalgamated the Burger and Grill market into one major product sector with a Trade Mark 'Steakhouse'. There has been constant product innovation so that in 1982 Steakhouse Grills were launched to fill the market gap between steak and burgers and develop the adult franchise. In October 1985 Low Fat Beefburgers were launched. The latest product, Prizesteak, is a revolutionary new product created to a completely new recipe and offers quality close to that of real steak with a substantial price advantage.

The total advertising spend of £3.4m in 1985 by Birds Eye could be compared with the combined total spend of £2.2m by all other manufacturers on the product group. In 1986 Birds Eye proposed to spend £4.2m on the Steakhouse brand. Thus the brand leader is spending over 6% of turnover on advertising.

4.6.4.2 Meat Ready Meals

Within the meat sector of the frozen food market ready meals have continued to provide the main impetus for growth in 1986.

The level of competition within the prepared meals market has increased dramatically since 1985 and many smaller brands have attempted to appeal to limited sectors of the market. Birds Eye estimated the breakdown of the market as shown in Table 4.6.4.2 in 1985 and most of these brands sold a range of prepared meals, including fish and vegetable dishes as well as meat.

TABLE 4.6.4.2 BRAND SHARE OF FROZEN PREPARED MEALS IN 1985

	%
Menumaster - Birds Eye	37
Ross	11
Findus	8
Other Brands	24
Own Label	20
Total	100

The relatively large share of products sold by other smaller brands and retailer own labels indicate the opportunities which may be available for Uruguayan meat imports into the UK. Uruguayan fish companies are already co-operating to develop prepared meals for Birds Eye under the Birds Eye

label and for Bejam as own label products and these opportunities could be extended to meat products.

There is a noticeable absence of really high quality meat products in the frozen market. The growing importance of high price fish recipe dishes and the switch from burgers to steaks and grills would indicate that a high meat content, high quality beef product could be acceptable.

4.6.5 Frozen Food Distribution in the UK

As shown in Table 4.6.5, 54% of frozen foods are sold through major multiples and grocers, with a further 24% through freezer centres.

TABLE 4.6.5 SHARE OF THE FROZEN FOOD MARKET - DECEMBER 1985

	%	%
Multiples:		
Sainsbury	12.9	
Tesco	10.7	
Dee Group including Fine Fare	8.3	
Asda	7.5	
Argyll	4.1	
Kwiksave	3.4	
Safeway	2.0	
Waitrose	1.0	
Other Multiples	4.3	
Total Multiples		54.2
Freezer Centres		
Bejam	11.7	
Cordon Bleu	1.3	
Other Freezer Centres	10.4	
Total Freezer Centres		23.4
Co-operative Societies		9.2
Independent Grocers		5.3
Other Outlets		7.0

Source: Ross Foods - AGB Sterling Base

Two multiples, Sainsbury and Tesco and a specialist freezer chain Bejam between them control over 35% of frozen foods market. It is these three outlets which were sampled in the shop survey, discussed below.

This concentration of distribution in the hands of a very small number of retailers would be a major advantage to the Uruguayan meat industry in introducing new products as own label brands. However, discussions with Asda who have a current policy of increasing own label distribution, were not fruitful as they were unwilling to consider purchasing products with their brand from Uruguay due to the cost of quality control and in-plant inspection.

Own label distribution by the larger retailers remains an attractive proposition in that it reduces the advertising investment required but as discussed below it will be necessary to set up marketing operations within Europe if this opportunity is to be exploited.

On the other hand discussions with Bejam were more encouraging in that they see opportunities for importing fish products from Uruguay and if an intergrated range were available the cost of plant inspections by technical staff could be spread over a larger volume of sales.

4.7 UK SHOP SURVEY

As an integral part of this study the Consultants purchased a range of frozen meat products from three major multiples in July 1986.

The multiples chosen were Sainsbury, Tesco and Bejam. These outlets in addition to being the largest outlets for frozen food represent three different approaches to retailing in the UK and the products obtained represent a cross section of the market.

Sainsbury are the largest food retailer in the UK with approximately 18% of the grocery market. They have a tradition for fresh foods including meat and have built their reputation, commencing in the South East of the country, on fresh foods with a high percentage of own label products. In December 1985 frozen foods represented 19.5% of Sainsbury turnover.

Tesco, beginning as a market trader are now the second largest food retailer in the UK and are rapidly changing their image from cheap and cheerful to high quality superstores. Their range which was traditionally branded now includes a high percentage of own label products.

Bejam are the largest specialist frozen food retailers with 11.7% of the frozen food market in December 1985, equivalent to 50% of the frozen foods sold through specialist freezer outlets. While initially Bejam concentrated on branded products they have now developed a wide range of own label products including recipe dishes.

A total of 131 products containing beef but excluding sausages and traditional canned meats were purchased from the three outlets, as shown in Table 4.7.

TABLE 4.7 SHOP SURVEY - SAMPLE BY PRODUCT TYPE - JULY 1986

	Bejam	Sainsbury	Tesco	Total
Frozen carcase meat	25	10	9	44
Frozen offals		3		3
Burgers		10		10
Grills and Steaks	6	9	13	28
Snacks			1	1
Ready Meals	6	14	16	36
Other frozen products	2	1		3
Total frozen products	39	47	39	125
Foil-packed ready meals		2	2	4
Chilled ready meals			2	2
Total	40	49	43	131

Sainsbury was the first outlet visited and the complete range, including offals and burgers, were purchased. However, in that neither offals nor burgers would be suitable for importation from Uruguay these products were not purchased from the other two outlets and have been shown below to provide a bench-mark for other products within the frozen meat range.

In addition to the frozen meat products containing beef a number of new convenience meals in sterile packs and from the chill cabinet were also purchased and are discussed in paragraphs 4.8 and 4.9 below.

4.7.1 Price Structure of Frozen Carcase Meat

Table 4.7.1 shows the price structure of the 44 samples of frozen carcase meat. When the same product is shown twice throughout these tables it has been purchased from two different outlets. Thus Bernard Matthews Beef Roast was purchased from Tesco and Bejam.

TABLE 4.7.1 PRICE STRUCTURE OF FROZEN CARCASE MEAT IN SAINSBURY, BEJAM AND TESCO - JULY 1986

	Price per kg Pence	Weight per Pack oz	Price per Pack Pence	Units per Pack	Weight per Unit gm	Price per Unit Pence
Beatrice - Butterball						
Beef Roast	510	20.00	289	1	567	289
Bejam - Own Label - Economy Pack						
Minced Beef	185	80.00	420	-	-	-
Beef and Kidney	254	32.00	230	-	-	-
Bejam - Own Label						
Minced Beef	194	48.00	264	-	-	-
Diced Beef	284	32.00	258	-	-	-
Bejam - Own Label - Home Produced Beef						
Minced Beef Steak	209	80.00	475	5	454	95
Minced Beef Steak	218	48.00	297	-	-	-
Stewing Steak	265	64.00	480	8	226	60
Minced Chuck Steak	283	28.00	225	-	-	-
Diced Steak and Kidney	300	32.00	272	-	-	-
Braising Steak	303	64.00	548	8	226	69
Boneless Rib Roast	350	36.96	367	1	1048	367
Diced Beef Steak	370	32.00	336	-	-	-
Brisket	371	38.24	402	1	1084	402
Silverside Roasting Joint	411	28.48	332	1	807	332
Topside Roasting Joint	416	36.00	425	1	1021	425
4 Rump Steaks	438	26.08	324	4	185	81
Cubed Chuck Steak	463	28.00	368	-	-	-
8 Minute Steaks	591	17.92	300	8	64	38
Sirloin Steaks	762	29.44	636	4	209	159
2'T'Bone Steaks	792	21.60	485	2	306	243
Fillet Steaks	1031	10.08	295	2	143	148
Bernard Matthews						
Beef Roast	519	20.00	294	1	567	294
Beef Roast	519	20.00	294	1	567	294
British Beef - Catering						
Rump Steak	462	38.00	499	8	135	62

continued

TABLE 4.7.1 PRICE STRUCTURE OF FROZEN CARCASE MEAT IN SAINSBURY, BEJAM AND TESCO - JULY 1986 (continued).

	Price per kg Pence	Weight per Pack oz	Price per Pack Pence	Units per Pack	Weight per Unit gm	Price per Unit Pence
Sainsbury Own Label Meat - Home Produced Beef						
Mince	207	48.00	282	4	340	71
Mince	229	48.00	312	1	1360	312
Extra Lean Mince	282	16.00	128	-	-	-
Diced Casserole Beef	370	32.00	336	-	-	-
Braising Steak	375	35.52	378	-	-	-
Topside - Top Rump	437	24.32	301	1	689	301
Lean Cubed Steak	450	24.00	306	-	-	-
Rump Steak	640	26.08	473	-	-	-
Topside	694	6.00	118	2	85	59
Boneless Rib	768	30.24	658	1	857	348
Tesco - Own Label - British						
Minced Beef	195	48.00	267	4	340	67
Brisket Beef Joint	362	36.64	376	1	1039	376
Topside Roasting Joint	432	39.50	484	1	1120	196
Silverside Roasting Jnt	432	36.00	441	1	1021	196
Top Rump Roasting Jnt	432	40.80	500	1	1157	500
Tesco - Own Label Freezer Pack - British						
Minced Beef	212	32.00	192	-	-	-
Diced Beef	318	32.00	288	-	-	-
Unbranded Catering Pack						
8 Sirloin Steaks	553	38.00	597	8	135	75
Wessex - Sunday Best						
Beef Joint with Basting Fat	585	12.00	199	1	340	199

Source: Shop Survey July 1986

While Bejam, who specialise in frozen foods sell the complete range of frozen meats from minced to 'T'bone steak, both Sainsbury and Tesco sell a more limited range.

4.7.1.1 Preformed Joints and Carved Meats

In addition to the carcase meat, shown in Table 4.7.1, there are three specialised products, Beatrice Butterball Beef Roast, Bernard Matthews Beef Roast and Wessex Sunday Best Beef Joint with Basting Fat.

The Beatrice Butterball and Bernard Matthews Joint were complete joints which had been treated and formed into plasti[illegible]eves with fat attached by a glue-type process.

The Beatrice Joint is described as "deep basted" and Bernard Matthews as "produced from specially-selected prime beef with added water and salts.

The Wessex Sunday Best Beef Joint with Basting Fat on the other hand was a pre-sliced product produced by Meatpac at Chandlers Ford mainly for Bejam. This product is described as "Traditional Roasting Beef already carved". As can be seen from Table 4.7.1 the product retails at £5,850.00 per tonne ($US8,775 per tonne at a conversion rate of $US1.50 to the £ sterling. This compares with Topside roasting joints in Bejam retailing at £4,160.00 per tonne (approximately $US6,240 per tonne). In contrast to the other carcase meats, all of which are sold in transparent vacuum packs, this product is sold in an outer waxed cardboard box with the product in a deep foil tray. The product can be cooked either for 17 minutes in a microwave or for 60 minutes in the oven. If a similar product can be produced in a cooked form such that it is can be imported under the regulations which allow for Customs Duty of 26% it would be a suitable product for manufacture in Uruguay. No artificial ingredients or additives were declared on the Wessex pack although Sodium Polyphosphates (E450c) were declared on both the Bernard Matthews and the Beatrice products.

4.7.1.2 Frozen Steaks

Of particular interest in developing a range of precooked meats which can be manufactured in Uruguay is the price of natural carcase steaks on the UK market. Table 4.7.1.2 has been extracted from Table 4.7.1 to indicate the price structure of these steaks.

TABLE 4.7.1.2 NATURAL FROZEN STEAKS IN THE UK MARKET - JULY 1986

	Price per kg Pence	Weight per Pack oz	Price per Pack Pence	Units per Pack	Weight per Unit gm	Price per Unit Pence
Bejam - Own Label - Home Produced Beef						
Braising Steak	303	64.00	548	8	226	69
4 Rump Steaks	438	26.08	324	4	185	81
8 Minute Steaks	591	17.92	300	8	64	38
Sirloin Steaks	762	29.44	636	4	209	159
2'T'Bone Steaks	792	21.60	485	2	306	243
Fillet Steaks	1031	10.08	295	2	143	148
British Beef - Catering						
Rump Steak	462	38.00	499	8	135	62
Sainsbury Own Label Meat - Home Produced Beef						
Braising Steak	375	35.52	378	-	-	-
Rump Steak	640	26.08	473	-	-	-

Source: Shop Survey July 1986

The steaks vary in weight from 54 grams, about 2.5 ounces, for a Minute Steak up to over 300 grams, nearly 11 ounces for a 'T' Bone Steak. The British housewife is prepared to pay nearly £2.50 per unit for a 'T' Bone Steak and £1.50 for Sirloin and Fillet Steaks from Bejam.

4.7.2 Price Structure of Frozen Offals

Table 4.7.2 shows the price structure of beef offals purchased in Sainsbury in July 1986.

TABLE 4.7.2 PRICE STRUCTURE OF SAINSBURY OWN LABEL FROZEN OFFALS - JULY 1986

	Price per kg Pence	Weight per Pack oz	Price per Pack Pence	Units per Pack	Weight per Unit gm	Price per Unit Pence
Irish Ox Kidney	145	7.04	29	-	-	-
Sliced Ox Heart	181	16.00	82	4	114	21
Sliced Ox Liver	132	8.00	30	-	-	-

Source: Shop Survey July 1986

The retail price of beef offals is very low and even if products could be manufactured from beef offals in Uruguay it is doubtful whether they would be competitive with similar products produced in the UK.

4.7.3 Frozen Burgers in Sainsbury

Frozen Beefburgers were purchased from Sainsbury but not from the other two outlets to provide a benchmark for comminuted relatively low meat content products.

4.7.3.1 Price Structure of Frozen Beefburgers in Sainsbury

Table 4.7.3.1 shows the price structure of the ten different packs of frozen Beefburgers purchased in Sainsbury and these are compared with regard to meat content and other comments in Table 4.7.3.2.

TABLE 4.7.3.1 PRICE STRUCTURE OF FROZEN BURGERS IN SAINSBURY - JULY 1986

	Price per kg Pence	Weight per Pack oz	Price per Pack Pence	Units per Pack	Weight per Unit gm	Price per Unit Pence
Birds Eye - Steakhouse						
10 Economy Burgers	198	17.50	98	10	50	10
4 Original Beef Burgers	260	8.00	59	4	57	15
100% Beef Burgers	392	8.00	89	4	57	22
4 Low Fat Beef Burgers	449	7.00	89	4	50	22
Findus						
4 Real Beef Burgers	278	8.00	63	4	57	16
Sainsbury - Own Label						
16 Beef Burgers	215	32.00	195	16	57	12
8 Beef Burgers	231	16.00	105	8	57	13
8 Quarter Pounders	236	32.00	214	8	113	27
4 Beef Burgers	260	8.00	59	4	57	15
2 Beef Burgers	283	4.00	32	2	57	16

Source: Shop Survey July 1986

TABLE 4.7.3.2 MEAT CONTENT OF FROZEN BEEFBURGERS IN SAINSBURY - JULY 1986

	Minimum Meat %	Comment
Birds Eye - Steakhouse		
10 Economy Burgers	60	Beef and Other Meats
4 Original Beef Burgers	80	Beef with Onion
100% Beef Burgers	99	Touch of seasoning - no onion
4 Low Fat Beef Burgers	80	Half the fat of a Normal Beef Burger
Findus		
4 Real Beef Burgers	80	Real Beef,minced and blended with fresh onions and a special seasoning mix guarantees a juicy beef burger with just the right texture and taste
Sainsbury - Own Label		
16 Beef Burgers	80	Beef
8 Beef Burgers		Beef
8 Quarter Pounders	80	Beef - Double Size Beef Burgers
4 Beef Burgers	80	Beef
2 Beef Burgers		Beef

Source - Shop Survey July 1986

Sainsbury stock three brands of Beefburgers, the brand leader Birds Eye, a secondary brand Findus, and their own label.

The quality of the beefburgers varies from Economy Burgers produced by Birds Eye with 60% meat and containing other meat in addition to beef through the majority of products with 80% beef to 100% Beefburgers produced by Birds Eye with 99% beef and no onion.

All the products with the exception of Sainsbury own label Quarter Pounder weigh approximately 50-57gm (2oz). The price per unit however varies from 10p for a Birds Eye Economy Beefburger to 22p for the 100% Beefburgers and Low Fat Beefburgers from Birds Eye, with the Quarter Pounder 27p each.

The Birds Eye products are packed in waxed cardboard boxes which are closed with tabs, compared with the Sainsbury and Findus Metal Box manufactured waxed cardboard boxes which are sealed. All the products have an inner plastic wrapping which is a loosely-wrapped sheet for Birds Eye products but flow packs for Sainsbury and Findus. The individual Birds Eye Burgers are further separated with waxed paper dividers.

4.7.4 Frozen Steaks and Grills

A total of 28 steaks and grills were purchased from the three outlets as shown in Table 4.7.4.

TABLE 4.7.4 STEAKS AND GRILLS BY BRAND AND OUTLET - JULY 1986

		LINES STOCKED			
	Products	Bejam	Sainsbury	Tesco	Total
Birds Eye	4	1	3	5	9
Dalepak	3	1	2	2	5
Bernard Matthews	2	-	[illegible]	[illegible]	[illegible]
Ross	1	1	-	1	2
Slaters	1	1	-	1	2
Unger	1	-	1	-	1
Total Branded	12	4	7	11	22
Own Label					
Bejam	1	2	-	-	2
Sainsbury	1	-	2	-	2
Tesco	1	-	2		2
Total Own Label	3	2	2	2	6
Total	15	6	9	13	28

Source: Shop Survey July 1986

In addition to the six different brands found in the three outlets all three outlets sold own label products.

4.7.4.1 Price Structure of Frozen Steaks and Grills

Table 4.7.4.1 shows the price structure of the 28 frozen steaks and grills purchased and compares this with two prepared meals produced by Dalepak which contain steak. These products are also described in paragraph 4.7.6.

TABLE 4.7.4.1 PRICE STRUCTURE OF FROZEN STEAKS AND GRILLS IN SAINSBURY, BEJAM AND TESCO - JULY 1986

	Price per kg Pence	Weight per Pack oz	Price per Pack Pence	Units per Pack	Weight per Unit gm	Price per Unit Pence
Bejam Own Label						
12 Steakgrills	231	42.00	275	12	99	23
6 Steakgrills	232	21.00	138	6	99	23
Bernard Matthews						
Country Grillsteaks	314	10.00	89	2	142	45
Country Grillsteaks	314	10.00	89	2	142	45
2 Beef Bar-B-Steaks	399	7.00	79	2	99	40
Birds Eye - Steakhouse						
6 Value Grills	194	18.00	99	6	85	17
6 Value Grills	214	18.00	109	6	85	18
6 Beef Grills	312	18.00	159	6	85	27
6 Beef Grills	331	18.00	169	6	85	28
6 Beef Grills	351	18.00	179	6	85	30
4 Prizesteaks	384	20.00	218	4	142	55
2 Beef Grills	447	6.00	76	2	85	38
2 Prizesteaks	447	10.00	127	2	142	64
2 Low Fat Beef Grills	465	6.00	79	2	85	40
Dalepak						
8 Beef Steaklets	234	24.00	159	8	85	20
8 Beef Steaklets	234	24.00	159	8	85	20
4 Beef Quicksteaks	291	12.00	99	4	85	25
6 Beef Dalesteaks	351	18.00	179	6	85	30
2 Beef Dalesteaks	383	8.00	87	2	114	44
Dalepak - The Budget Gourmet						
Steak Tips with Vegetables	385	10.00	109	1	283	109
Oriental Pepper Steak & Rice	385	10.00	109	1	283	109
Ross						
6 Grillsteaks	312	18.00	159	6	85	27
6 Grillsteaks	312	18.00	159	6	85	27

continued

TABLE 4.7.4.1 PRICE STRUCTURE OF FROZEN STEAKS AND GRILLS IN SAINSBURY, BEJAM AND TESCO - JULY 1986 (continued)

	Price per kg Pence	Weight per Pack oz	Price per Pack Pence	Units per Pack	Weight per Unit gm	Price per Unit Pence
Sainsbury - Own Label						
6 Grillsteaks	273	18.00	139	6	85	23
2 Grillsteaks	376	6.00	64	2	85	32
Slaters - Steak Canadien						
Sandwich Slices	250	13.97	99	10	40	10
Sandwich Slices	275	12.70	99	10	36	10
Tesco - Own Label						
6 Grill Steaks	275	18.00	140	6	85	23
2 Grill Steaks	376	6.00	64	2	85	32
Unger						
Steakwich	412	9.00	105	6	43	18

Source: Shop Survey July 1986

As shown in Table 4.7.4.2 below the Birds Eye range includes a low meat content Value Grill which, in addition to beef, contains two other meats and retails at approximately 200p/kg (£2,000 per tonne). This contrasts with the top of the range Prizesteaks and Low Fat Beef Grills with retail prices of approximately 450p/kg (£4,500 per tonne).

In comparison with the beefburgers which averaged approximately 50gm (2oz) the majority of steaks and grills have a unit weight of 85gm (3oz) although the heavier products including Bernard Matthews Country Grills and Birds Eye Prizesteaks, which have been recently introduced, weigh 142gm (5oz) each.

The price per unit varies from as little as 10 pence for a very thin, lightweight Sandwich steak up to 64p for a Birds Eye Prizesteak purchased in units of two. This can be compared with the unit prices of carcase meat in Table 4.7.1.2 and beefburgers in Table 4.7.3.1 above.

In addition to the steaks and grills, Dalepak produce two convenience meals including steak which retail at 109p/pack for one portion.

4.7.4.2 Meat Content and Composition of Steaks and Grills

Table 4.7.4.2 shows the meat content of the various grills available and indicates the composition.

TABLE 4.7.4.2 MEAT CONTENT AND COMPOSITION OF STEAKS AND GRILLS

	Minimum Meat %	Comment
Bejam Own Label		
Steakgrills	95	Chopped seasoned prime beef
Bernard Matthews		
Country Grillsteaks	82	An original recipe of Norfolk turkey & prime beef chopped & shaped with onion
Beef Bar-B-Steaks	95	Chopped and shaped beef with special Barbecue seasoning
Birds Eye - Steakhouse		
Value Grills	60	Tasty meat with cereal and a touch of seasoning
Beef Grills	95	All beef chopped and shaped with a touch of seasoning
Prizesteaks	95	Big servings. Real beef chopped and shaped
Low Fat Beef Grills	95	Half the fat of a normal beef grill
Dalepak		
Beef Steaklets	80	Chopped and shaped 80% meat with cereal
Beef Quicksteaks	90	Chopped and shaped 90% meat with cereal
Beef Dalesteaks		Pure beef with a hint of seasoning
Ross		
Grillsteaks	95	Tasty beef chopped and shaped, All beef with a hint of seasoning
Sainsbury - Own Label		
Grillsteaks	95	Chopped and shaped beef
Slaters - Steak Canadien		
Sandwich Slices	100	Chopped and shaped

continued

TABLE 4.7.4.2 MEAT CONTENT AND COMPOSITION OF STEAKS AND GRILLS (continued)

	Minimum Meat %	Comment
Tesco - Own Label		
Grill Steaks	97	Chopped and shaped beef with seasoning
Unger		
Steakwich	95	Chopped and shaped beef with seasoning

Source: Shop Survey July 1986

It can be seen that the majority of the steaks and grills contain approximately 95% meat and are manufactured from chopped and shaped beef.

4.7.4.3 Cooking Conditions for Steaks and Grills

Table 4.7.4.3 indicates that the steak and grill range can be cooked in the microwave, conventional oven, grilled or fried.

TABLE 4.7.4.3 COOKING CONDITIONS FOR STEAKS AND GRILLS

	Cooking Time in Minutes			
	Microwave	Oven	Grill	Fry
Bejam - Own Label				
Steakgrills			20	18
Bernard Matthews				
Country Grillsteaks	5		16	10
Beef Bar-B-Steaks			12	9
Birds Eye - Steakhouse				
Value Grills		10	8	6
Beef Grills		12	10	10
Prizesteaks		15	15	12
Low Fat Beef Grills		8	10	8
Dalepak				
Beef Steaklets	4		9	9
Beef Quicksteaks	4		8	8
6 Beef Dalesteaks		20	12	12
2 Beef Dalesteaks		25	15	15
Ross				
Grillsteaks			10	10

TABLE 4.7.4.3 COOKING CONDITIONS FOR STEAKS AND GRILLS (continued)

	Cooking Time in Minutes			
	Microwave	Oven	Grill	Fry
Sainsbury - Own Label				
6 Grillsteaks		20	10	10
2 Grillsteaks			10	10
Slaters - Steak Canadien				
Sandwich Slices			2	1
Tesco - Own Label				
Grill Steaks		30	12	12
Unger				
Steakwich			1	1

Source: Shop Survey July 1986

Only the Bernard Matthews and Dalepak Beef Steaklets and Quicksteaks are recommended for microwave cooking. This is probably because these products are uncooked and need to be grilled or fried to produce a brown surface.

The cooking time for frying and grilling varies from one minute for the Sandwich Steaks to 20 minutes for the Bejam Steakgrills. These relatively extended and limited cooking conditions indicate a niche into which precooked frozen steaks could be introduced if microwave cooking can be developed.

4.7.4.4 Packaging of Steaks and Grills

The great majority of the steaks and grills were packed in printed, sealed, waxed board boxes mainly produced by Kliklok. The internal packaging varied from vacuum packs on the Bernard Matthews Country Grills to flow packs on the majority of the other products although some were loosely wrapped in plastic sheets or bags.

The two premium Birds Eye products were packed in tabbed wax board printed boxes.

4.7.5 Frozen Snacks containing Beef

Although there has been a very considerable increase in the market for frozen snacks, in particular manufactured from turkey and chicken, only one beef-based product was found as shown in Table 4.7.5.

TABLE 4.7.5 PRICE STRUCTURE OF FROZEN SNACK BEEF PRODUCTS IN SAINSBURY, BEJAM AND TESCO - JULY 1986

	Price per kg Pence	Weight per Pack oz	Price per Pack Pence	Units per Pack	Weight per Unit gm	Price per Unit Pence
Golden Coated Beefy Bites	139	20.00	79	8	71	10

Source: Shop Survey July 1986

There would appear to be an opportunity to develop the beef-based snack market but it is not recommended that the Uruguayan beef industry should exploit this opportunity for two reasons.

1. For geographical reasons it would be difficult to research and develop a new market.

2. Snack products tend to be based on low quality beef and this would not provide the opportunity for which the Uruguayan meat industry is searching.

4.7.6 Frozen Prepared Meals containing Beef

Thirty six frozen prepared meals were purchased from the three outlets as shown in Table 4.7.6.

TABLE 4.7.6 FROZEN PREPARED MEALS CONTAINING BEEF - JULY 1986

		LINES STOCKED			
	Products	Bejam	Sainsbury	Tesco	Total
Findus	6	2	3	5	10
Birds Eye	4	-	4	3	7
McCain	2	1	1	2	4
Dalepak	2	-	-	2	2
Slaters	2	1	-	1	2
Farmhouse Pantry	1	-	-	1	1
Uncle Wong	1	-	-	1	1
Turners	1	-	-	1	1
Unger Meats	1	-	1	-	1
Total Brands	20	4	9	16	29
Own Label					
Bejam	2	2	-	-	2
Sainsbury	5	-	5	-	5
Total	27	6	14	16	36

Source: Shop Survey July 1986

Twenty seven different products were found, of which seven were own label.

Both Bejam and Sainsbury stock own label but Tesco sell a wide range of secondary brands. It is suggested that in the near future Tesco will probably eliminate many of these secondary brands and will develop an own label range. This would provide an ideal opportunity for Uruguayan meat producers as Tesco would provide their own advertising money and as shown earlier represent the third largest outlet for frozen foods in the UK.

4.7.6.1 Price Structure of Frozen Prepared Meals - July 1986

Table 4.7.6.1 shows the price structure of the 36 samples of prepared meals purchased. Only two products, Findus Lean Cuisine Spaghetti Bolognese and McCains Menu Classics Oriental Beef, were found in all three outlets. While the price was similar in Tesco and Sainsbury, Bejam prices were 3p/pack more for the Findus products and 10p/pack more for the McCain.

TABLE 4.7.6.1 PRICE STRUCTURE OF FROZEN PREPARED BEEF MEALS IN SAINSBURY, BEJAM AND TESCO - JULY 1986

	Price per kg Pence	Weight per Pack oz	Price per Pack Pence	Units per Pack	Weight per Unit gm	Price per Unit Pence
Bejam - Own Label						
Beef Stew & Dumplings	345	10.00	98	1	284	98
Beef Curry	345	10.00	98	1	284	98
Birds Eye - Menu Master						
Beef Stew & Dumpling	324	7.51	69	1	213	69
Beef Stew & Dumpling	399	7.51	85	1	213	85
Lean Roast Beef & Gravy	436	8.00	99	2	114	50
Liver with Onion & Gravy	451	5.00	64	1	142	64
Lean Roast Beef & Gravy	524	8.00	119	2	114	60
Roast Beef Platter(Attachment 1)	526	12.00	179	1	340	179
Lean Roast Beef & Gravy	570	4.02	65	1	114	65
Dalepak - The Budget Gourmet						
Steak Tips with Vegetables	385	10.00	109	1	283	109
Oriental Pepper Steak & Rice	385	10.00	109	1	283	109
Farmhouse Pantry						
Beef Stew & Dumplings	370	8.00	84	1	227	84
Findus						
Sliced Roast Beef with Gravy	463	10.58	139	2	150	70
Sliced Roast Beef with Gravy	495	7.05	99	1	200	99
Beef Madras Curry with Rice	520	8.00	118	1	227	118

continued

TABLE 4.7.6.1 PRICE STRUCTURE OF FROZEN PREPARED BEEF MEALS IN SAINSBURY, BEJAM AND TESCO - JULY 1986 (continued)

	Price per kg Pence	Weight per Pack oz	Price per Pack Pence	Units per Pack	Weight per Unit gm	Price per Unit Pence
Findus - Lean Cuisine						
Spaghetti Bolognese	396	11.50	129	1	326	129
Spaghetti Bolognese	396	11.50	129	1	326	129
Spaghetti Bolognese	405	11.50	132	1	326	132
Beef & Pork Cannelloni	473	9.60	129	1	273	129
Beef Julienne with Rice	596	8.60	146	1	245	146
Beef Julienne with Rice	608	8.60	149	1	245	149
Findus - Ready Meal						
Beef Teriyaki	512	10.00	145	1	283	145
McCain - Menu Classics						
Beef Continental	453	10.00	129	1	285	129
Oriental Beef	453	10.00	129	1	285	129
Oriental Beef	453	10.00	129	1	285	129
Oriental Beef	488	10.00	139	1	285	139
Sainsbury - Own Label						
Lasagne	224	15.00	95	2	213	48
Cannelloni	224	15.00	95	2	213	48
Beef Curry with Rice	372	13.80	145	1	390	145
Roast Beef in Gravy	470	7.05	94	1	200	94
Beef Casserole with Vegetables	493	10.60	148	1	300	148
Slaters						
Beef Olives	250	14.00	99	4	99	25
Roundas with Minced Beef	179	11.64	59	4	83	15
Turners						
Beef Stew & Dumpling Dinner	310	16.50	145	1	468	145
Uncle Wong						
Chow Mein with Beef	288	11.60	95	1	330	95
Unger Meats						
Veal Cordon Bleu	488	10.00	138	2	142	69

Source: Shop Survey July 1986

Only two products, Findus Lean Cuisine Spaghetti Bolognese and McCains Menu Classics Oriental Beef, were found in all three outlets. While the price was similar in Tesco and Sainsbury, Bejam prices were 3p/pack more for the Findus products and 10p/pack more for the McCain.

The price/kg for these products varied from 179p for the Slaters Roundas

with Minced Beef which is basically a pastry product with some minced beef and contains only 12.5% meat to 608p/kg for the Findus Lean Cuisine Beef Julienne with Rice which as shown in Table 4.7.6.3 contains 35% of meat in the form of strips of lean steak with vegetables.

4.7.6.2 Price/Serving of Frozen Prepared Meals

Table 4.7.6.2 shows the price/serving of the prepared meals in Bejam, Sainsbury and Tesco in which the meat content was declared in descending order as far as practicable.

TABLE 4.7.6.2 COMPARISON OF PRICE PER SERVING AND MEAT CONTENT OF FROZEN PREPARED MEALS

	PENCE/SERVING			
	Bejam	Sainsbury	Tesco	Meat %
Individual Complete Meals				
Birds Eye Roast Beef Platter		179		23
Findus Beef Julienne with Rice	146		149	35
Sainsbury Beef Casserole with Veg		148		25
Findus Beef Teriyaki			145	32
Sainsbury Beef Curry with Rice		145		35
Findus Beef Madras Curry with Rice		118		40
Complete Meals with Cereal or Pasta				
Turners Beef Stew & Dumpling Dinner			145	16
McCain Beef Continental			129	16
McCain Oriental Beef	139	129	129	17
Findus Spaghetti Bolognese	129	129	129	15
Dalepak - The Budget Gourmet			109	12.50
Birds Eye Beef Stew & Dumpling	-	85	69	26
Sainsbury Lasagne		48		15
Sainsbury Cannelloni			48	12
Slaters Roundas with Minced Beef			15	12
Meat Portion of The Meal				
Findus Sliced Roast Beef with Gravy(1 helping)			99	60
Sainsbury Roast Beef in Gravy		94		60
Findus Sliced Roast Beef with Gravy(2 helpings)			70	60
Birds Eye Lean Roast Beef & Gravy(1 helping)			65	50
Birds Eye Liver with Onion & Gravy		64		42
Birds Eye Lean Roast Beef & Gravy(2 helpings)		60	50	55

Source: Shop Survey July 1986

The products can be further divided into three main groups:

1 Individual complete meals
2 Complete meals including cereal or pasta.
3 The meat portion of the meal

4.7.6.2.1 Individual Complete Meals

The individual complete meals vary in price from 179p/serving for the Birds Eye Beef Platter to 118p/serving for the Findus Beef Madras Curry with Rice.

The declared meat content as shown in Table 4.7.6.2 varied between 23% and 40%

A number of these products were analysed for visual meat content ie the amount of meat the housewife would find when the product was opened for cooking and this is compared with the declared meat content in Table 4.7.6.2.1 in both percentage and weight terms.

TABLE 4.7.6.2.1 COMPARISON OF DECLARED AND ACTUAL MEAT CONTENTS IN COMPLETE PREPARED MEALS

	Total Wt		% Meat		Meat Wt	
	Dec gm	Act gm	Dec	Act	Cal gm	Act gm
Birds Eye Roast Beef Platter	340	352	23	18	78	63
Findus Beef Julienne with Rice	245	260	35	29	86	75
Sainsbury Beef Casserole with Veg	300	323	25	19	75	62
Findus Beef Teriyaki	283	286	32	31	91	88
Sainsbury Beef Curry with Rice	390	403	35	20	136	80
Findus Beef Madras Curry with Rice	227	244	40	23	91	57

Dec - Declared on pack Act - Actual from analysis Cal - Calculated

Source: Shop Survey July 1986

The maximum declared meat content was 40% in Findus Beef Madras Curry with Rice but the actual weight of meat in this product was less than any others in this product group.

Comparing the last two columns in the table indicates the percentage yield of meat calculated as actual weight of cooked meat found in analysis over the calculated weight of meat obtained from the declared total weight and meat content. With the exception of the Sainsbury Beef Curry these are all considerably higher than would be anticipated indicating that the products have probably been manufactured from cooked meat and the meat content calculated on the basis of cooked meat.

The calulated weight of meat in these prepared meals varies from 75gm (2.5oz) to 136gm (5oz) and the actual weight of cooked meat in the final

product from 57gm (2oz) to 88gm (3oz).

The average weight of these products is approximately 300gm and if the percentage of meat is 35% this would be 105gms of raw meat per pack. At 90% yield this would equate to 8.6 packs per kg of raw meat or 8,570 packs of finished product per tonne of raw meat.

The most expensive product is the Birds Eye Roast Beef Platter which was purchased from Sainsbury and costs 179p/portion, equivalent to £5,260/tonne (US$7,890). It can be seen by comparing Tables 4.7.6.3 to Table 4.7.6.5.1 that this product which has been recently lauched by Birds Eye represents a complete meal on a plate consisting of roast beef, Yorkshire pudding with roast potatoes, baby peas, baby carrots and gravy. The meat content is only 23%, approximately 63gm of cooked meat (18% of the product as presented) in the product analysed. This would indicate a yield of cooked from raw of approximately 72% so that the raw meat equivalent of this dish is approximately 80-90gm (3oz).

4.7.6.2.2 Complete Meals with Cereal or Pasta

It can be seen from Table 4.7.6.2 above that complete meals with cereal or pasta vary in price per serving from 145p for Turners Beef Stew and Dumpling Dinner to 15p for a Slaters Roundas of Minced Beef of which probably at least two would be required for a serving making the serving equal to 30p. With the exception of the Birds Eye Beef Stew and Dumpling these products all had less than 20% declared meat content.

Again a number of these products were analysed for visual meat content ie the amount of meat the housewife would find when the product was opened for cooking and this is compared with the declared meat content in Table 4.7.6.2.2 in both percentage and weight terms.

TABLE 4.7.6.2.2 COMPARISON OF DECLARED AND ACTUAL MEAT CONTENTS IN COMPLETE PREPARED MEALS WITH CEREALS OR PASTA

	Total Wt		% Meat		Meat Wt	
	Dec gm	Act gm	Dec	Act	Cal gm	Act gm
McCain Beef Continental	285	279	16	17	46	47
McCain Oriental Beef	285	244	17	18	48	43
Findus Spaghetti Bolognese	326	345	15	12	49	43
Birds Eye Beef Stew & Dumpling	213	215	26	27	55	58
Sainsbury Lasagne	425	429	15	10	64	44*
Sainsbury Cannelloni	425	424	12	26	51	109*
Slaters Roundas with Minced Beef	330	337	12.50	44	41	149*

Dec - Declared on pack Act - Actual from analysis Cal - Calculated
* Meat could not be separated from vegatables or cereal.

Source: Shop Survey July 1986

The average calulated weight of meat in these complete meals is only 50gms (less than 2oz). Again assuming a 90% yield, although this is possibly pessimistic in comminuted products, 1000gm of meat would produce 18 packs equivalent to 18,000 packs per tonne.

In that it is the aim of the Uruguayan meat industry to export the maximum amount of meat with added value it is unlikely that this range would be attractive.

4.7.6.2.3 The Meat Portion of Prepared Meals

The final category of prepared meals within the meat sector provides the ready-cooked meat portion of the meal. It can be seen from Table 4.7.5.2 above that the average meat content of these products is much higher ie 42-60% meat but the product cannot really be considered a complete meal as the vegetables have to be prepared separately.

The individual servings vary in price depending upon the product and the outlet, from 99p/serving for Findus Sliced Roast Beef to 50p/serving for Birds Eye Lean Roast Beef and Gravy purchased in Tesco in two servings pack. It is particularly interesting to note that none of these products were sold by Bejan who plan to sell the Wessex pre-carved raw meat pack discussed in paragraph 4.7.1 aoove.

Again these products were analysed for actual meat content as shown in Table 4.7.6.2.3.

TABLE 4.7.6.2.3 COMPARISON OF DECLARED AND ACTUAL MEAT CONTENTS IN PREPARED MEALS CONSISTING OF THE MEAT PORTION OF THE MEAL

	Total Wt		% Meat		Meat Wt	
	Dec gm	Act gm	Dec	Act	Cal gm	Act gm
Findus Sliced Roast Beef with Gravy(1)	200	150*	60	81	120	121
Sainsbury Roast Beef in Gravy	200	192*	60	56	120	108
Findus Sliced Roast Beef with Gravy(2)	300	278*	60	63	180	175
Birds Eye Lean Roast Beef & Gravy(1)	114	98*	50	42	57	41
Birds Eye Liver with Onion & Gravy	142	132*	42	39	60	51
Birds Eye Lean Roast Beef & Gravy(2)	227	253	55	35	123	89

Dec - Declared on pack Act - Actual from analysis Cal - Calculated
(1) - 1 helping (2) - 2 helpings

* The loss of weight is probably due to gravy being absorbed in the packaging during defrosting prior to analysis. This will have the effect of increasing the apparent percentage meat content.

Source - Shop Survey July 1986.

The calulated weight of meat per serving varied from 57gms (2oz) of raw meat

in the Birds Eye Single Serving to 120gms (4oz) of cooked meat in the Sainsbury and Findus Single Servings. The average product contained 85gms (3oz) per serving.

However the actual weight of meat in the Findus and Sainsbury products is very similar to the declared weight. This would indicate, and it is confirmed on the Findus package, that the products are manufactured from cooked beef and the meat content declared on the basis of cooked meat.

On the other hand the Birds Eye products have a yield of approximately 70% indicating that raw meat is used in their manufacture.

Individual servings of the Findus and Sainsbury products, assuming a cooking yield of 70%, would be equivalent to approximately 170gms (6oz) of raw meat compared with the Birds Eye products which have approximately 60gms (2oz) of raw meat. This enormous difference in raw meat content will account for the 100% difference in the retail price of these two products.

It must be noted however that the cheaper Birds Eye product based on raw meat and advertised extensively is the brand leader in this product group.

4.7.6.3 Meat Content and Composition of Prepared Meals

Table 4.7.6.3 shows the declared meat content of the various prepared meals and the description taken from the packaging by brand.

TABLE 4.7.6.3 MEAT CONTENT AND COMPOSITION OF PREPARED MEALS

	Minimum Meat %	Comment
Bejam - Own Label		
Beef Stew & Dumplings		Tender pieces of beef and baby carrots in gravy with dumplings
Beef Curry		Tender pieces of beef in a medium curry sauce
Birds Eye - Menu Master		
Beef Stew & Dumpling	26	On average contains 34% meat
Lean Roast Beef & Gravy	55	
Liver with Onion & Gravy	42	
Roast Beef Platter	23	A complete meal on a plate Roast Beef, Yorkshire pudding with roast potatoes, peas, Baby carrots and gravy
Lean Roast Beef & Gravy	50	

continued

TABLE 4.7.6.3 MEAT CONTENT AND COMPOSITION OF PREPARED MEALS (continued)

	Minimum Meat %	Comment
Dalepak - The Budget Gourmet		
Steak Tips with Vegetables	12.50	Sliced beefsteak in a savory sauce with pearl onions, potatoes, tomatoes, peas, sliced green beans, sweetcorn and baby carrots
Oriental Pepper Steak & Rice	12.50	Prime beef steak strips blended with a spicy Chinese sauce, peppers and water chestnuts complimented with egg fried rice
Farmhouse Pantry		
Beef Stew & Dumplings		Tender pieces of beef with onions and carrots complimented with traditional dumplings
Findus		
Sliced Roast Beef with Gravy	60	
Beef Madras Curry with Rice	40	Tender chunks of beef, diced onion, tomato and sultanas have been simmered in a traditional blend of curry spices and enriched with creamed coconut.
Findus - Lean Cuisine		
Spaghetti Bolognese	15	Spaghetti Bolognese with mushrooms - less than 300 calories. A generous serving of spaghetti with a spicy sauce rich in tomatoes, lean beef and and mushrooms.
Beef & Pork Cannelloni		Pasta rolls filled with a blend of beef, pork, vegetables, herbs and spices and topped with a smooth mornay sauce, sauted mushrooms and Parmesan cheese.
Beef Julienne with Rice	35	Julienne strips of lean steak, carrots, peas and spinach in an Oriental style sauce, with a portion of white rice.

continued

TABLE 4.7.6.3 MEAT CONTENT AND COMPOSITION OF PREPARED MEALS (continued)

	Minimum Meat %	Comment
Findus - Ready Meal		
Beef Teriyaki	32	Lean Beef in a subtle Japanese style sauce with rice and vegatables
McCain - Menu Classics - Dinner for One		
Beef Continental	16	Lean strips of beef in a tomato herbs and wine sauce with pasta twists, baby carrots and cut green beans.
Oriental Beef	17	Tender strips of lean beef in a rich spicy sauce, served on noodles with broccoli
Sainsburys - Own Label		
Lasagne	15	Layers of fresh pasta with minced beef and tomato filling topped with a cheese sauce
Cannelloni	12	Rolls of fresh pasta with a savoury minced beef filling in a spicy tomato sauce topped with Cheddar cheese
Beef Curry with Rice	35	Tender chunks of beef in a medium hot Madras style sauce
Roast Beef in Gravy	60	Slices of Lean Roast beef in Gravy
Beef Casserole with Vegetables	25	Tender chunks of beef with assorted vegatables in a delicious beef stock
Slaters		
Beef Olives		Tender beef rolled round a sage and onion stuffing in a rich savoury sauce
Roundas with Minced Beef	12.50	Finest quality minced beef in a rich onion gravy surrounded by potato and coated with crunchy bread crumbs

continued

TABLE 4.7.6.3 MEAT CONTENT AND COMPOSITION OF PREPARED MEALS (continued)

	Minimum Meat %	Comment
Turners - Traditional British		
Beef Stew & Dumpling Dinner	16	Beef stew & dumpling, with duchess potatoes, cauliflower cheese and whole French beans
Uncle Wong		
Chow Mein with Beef		A popular Chinese snack. Tender slices of beef,beansprouts, water chestnuts & sweet peppers in a delicious sauce served on a bed of egg noodles
Unger Meats		
Veal Cordon Bleu		Chopped and shaped breaded veal with cheese and ham

Source: Shop Survey July 1986

It is obvious from the Table 4.7.6.3 and the previous analysis that none of the prepared meals at present on the UK market contain high quality steak meat and it is this niche in the market which it is suggested that the Uruguayan meat industry may wish to exploit.

4.7.6.4 Cooking Instructions and Conditions for Prepared Meals

Table 4.7.6.4 shows the four different methods of cooking recommended for the range of prepared meals purchased during the Shop Survey by brand.

TABLE 4.7.6.4 COOKING TIME IN MINUTES FOR PREPARED MEALS

	Microwave	Oven	Fry	Boil in the Bag
Bejam - Own Label				
Beef Curry	5	30		
Birds Eye - Menu Master				
Beef Stew and Dumpling	5			15
Beef Stew and Dumpling	7			15
Lean Roast Beef & Gravy	7			15
Liver with Onion & Gravy	5			
Lean Roast Beef and Gravy	8	25		
Roast Beef Platter	8	40		
Lean Roast Beef & Gravy	5			10

continued

TABLE 4.7.6.4 COOKING TIME IN MINUTES FOR PREPARED MEALS (continued)

	Microwave	Oven	Fry	Boil in the Bag
Dalepak - The Budget Gourmet				
Steak Tips with Vegetables	7	35		
Oriental Pepper Steak & Rice	7	35		
Farmhouse Pantry				
Beef Stew & Dumplings	5			20
Findus				
Sliced Roast Beef with Gravy	7	30		
Sliced Roast Beef with Gravy	5	20		
Beef Madras Curry with Rice				18
Findus - Lean Cuisine				
Spaghetti Bolognese	7			16
Beef and Pork Cannelloni	9	30		
Beef Julienne with Rice	2.4			15
Beef Julienne with Rice	6			15
Findus - Ready Meal				
Beef Teriyaki	6			16
McCain - Menu Classics				
Oriental Beef	8	45		
Beef Continental	8	45		
Sainsburys - Own Label				
Lasagne		40		
Cannelloni		40		
Roast Beef in Gravy	4	20		
Beef Curry with Rice	8	35		
Beef Casserole with Vegetables	7	35		
Slaters - Bistro				
Beef Olives	7	45		
Roundas with Minced Beef			10	
Turners - Traditional British				
Beef Stew & Dumpling Dinner	10	35		
Uncle Wong				
Chow Mein with Beef	7	35	15	
Unger Meats				
Veal Cordon Bleu			12	

Source: Shop Survey July 1986

The majority of prepared meat dishes can now be cookec in a microwave with

the alternative method of cooking either oven baking or boiling in the bag. While boil-in-the-bag does not dirty the pan it is important that the products used for cooking in the microwave and oven can be cooked in the container without dirtying additional utensils.

In this respect there have been important developments in the packaging of prepared meals during 1986 which permit products to be cooked in either a microwave or the oven without changing the container.

4.7.6.5 Packaging of Prepared Meat Meals

With the exception of the Dalepak "Budget Gourmet" range all the prepared meat meals on the UK market purchased in the shop survey are packed in printed sealed waxboard boxes mainly produced by Kliklok with either a vacuum bag or sealed tray to hold the product.

The Dalepak "Budget Gourmet" products however are produced in a waxed tray with a sealed printed waxed lid manufactured by Mardon Sprinter. This packaging is suitable for both microwave and oven baking without the use of further utensils or internal packaging

4.7.6.5.1 Internal Packaging of Complete Prepared Meals

Table 4.7.6.5.1. shows the considerable variety of internal packaging which is being used on the UK market for complete prepared meals.

TABLE 4.7.6.5.1 INTERNAL PACKAGING OF COMPLETE PREPARED MEALS

Birds Eye Roast Beef Platter	Reusable plate with printed peelable foil lid for the oven and plastic for microwave
Findus Beef Julienne with Rice	2 vacuum packs
Sainsbury Beef Casserole with Veg	Shallow plastic tray with transparent lid
Findus Beef Teriyaki	2 vacuum packs
Sainsbury Beef Curry with Rice	2 portion tray with plastic lid
Findus Beef Madras Curry with Rice	2 plastic sachets

Source: Shop Survey July 1986

The packaging of the Birds Eye Roast Beef Platter is the most sophisticated with a reusable plate with duplicate overwrapping which can be used in either a microwave or conventional oven.

The Findus products are packed in vacuum bags and in the case of the Lean

Cuisine and Ready Meal ranges can be cooked in either a microwave oven or boil in the bag.

The Sainsbury Own Label products are packed in plastic trays with plastic lids which are suitable for cooking in microwave and conventional ovens.

4.7.6.5.2. Internal Packaging of Complete Prepared Meals with Cereals or Pasta

Table 4.7.6.5.2. shows the considerable variety of internal packaging which is being used on the UK market for complete prepared meals with pasta or cereals.

TABLE 4.7.6.5.2 INTERNAL PACKAGING OF COMPLETE PREPARED MEALS WITH CEREALS OR PASTA

McCain Beef Continental McCain Oriental Beef	Microwave square plate with printed peelable foil lid
Findus Spaghetti Bolognese	2 Vacuum packs
Birds Eye Beef Stew & Dumpling	Vacuum pack
Sainsbury Lasagne	Aluminium foil tray and peelable foil lid
Sainsbury Cannelloni	Aluminium foil tray with cardboard lid

Source: Shop Survey July 1986

The newly launched McCains Menu Classics are presented on a shallow square microwaveable tray with a printed foil lid. The packaging is also suitable for heating in a conventional oven and is ready for the table.

The Findus and Birds Eye products are packed in vacuum bags and are suitable for cooking in a microwave oven or boil in the bag. The bags for the Birds Eye products have a special hole to allow for removing the hot bag from the boiling water with a fork.

The Sainsbury Own Label pasta products are sold in aluminium trays which are not suitable for heating in a microwave oven.

4.7.6.5.3. Internal Packaging of Prepared Meals consisting of the Meat Portion of the Meal

Table 4.7.6.5.3. shows the considerable variety of internal packaging which is being used on the UK market for prepared meals which provide the meat portion of the meal.

TABLE 4.7.6.5.3 INTERNAL PACKAGING OF PREPARED MEALS CONSISTING OF THE MEAT PORTION OF THE MEAL

Findus Sliced Roast Beef with Gravy	Aluminium foil tray with peelable foil lid
Sainsbury Roast Beef in Gravy	Aluminium foil tray with peelable foil lid
Birds Eye Lean Roast Beef & Gravy(1)	Shallow aluminium foil tray with peelable foil lid
Birds Eye Liver with Onion & Gravy	Vacuum Pack
Birds Eye Lean Roast Beef & Gravy(2)	Vacuum Pack

(1) 1 helping (2) 2 helpings

Source: Shop Survey July 1986.

The Findus, Sainsbury Own Label and Birds Eye Roast Beef in Gravy are all sold in shallow aluminium trays with peelable lids. These products all have to be lifted on to another container for cooking in the microwave.

Birds eye Liver and Bacon and double portions of Roast Beef are sold in vacuum packs and only microwave cooking is recommended.

In developing new products for the UK market it is essential that the packaging can be used to cook the product in a microwave oven without the use of other utensils.

4.8 UK SHOP SURVEY - STERILE MEALS

This product group consists of sterile but not canned products containing beef. As shown in Table 4.7 above only four products were found two in each of Sainsbury and Tesco.

4.8.1 Price Structure of Sterile Prepared Meals

Table 4.8.1. shows the price structure of the 4 packs of sterile meals purchased during the shop survey and can be compared with of frozen prepared meals in Tables 4.7.6.1 and 4.7.6.2 above.

TABLE 4.8.1 PRICE STRUCTURE OF STERILE PREPARED MEALS IN SAINSBURY AND TESCO - JULY 1986

	Price per kg Pence	Weight per Pack oz	Price per Pack Pence	Units per Pack	Weight per Unit gm	Price per Unit Pence
Bernard Matthews (Attachment 5)						
Beef Curry with Rice	261	13.40	99	1	380	99
Lasagne	309	11.30	99	1	320	99
Lockwoods (Attachment 6)						
Beef Casserole	300	11.60	99	1	330	99
Swissco - Kitchen Classics						
Cannelloni	263	14.10	105	2	200	53

Source: Shop Survey July 1986

The price structure for the launch of these new products has obviously been designed so that a complete meal can be sold for £1.00.

4.8.2 Meat Content and Composition of Sterile Prepared Meals

Table 4.8.2 shows the declared meat content of the sterile prepared meals and the description on the packaging by brand.

TABLE 4.8.2 MEAT CONTENT AND COMPOSITION OF STERILE PREPARED MEALS

	Minimum Meat %	Comment
Bernard Matthews		
Beef Curry with Rice	32	An authentic Indian recipe
Lasagne	29	An authentic Italian recipe
Lockwoods		
Beef Casserole		Tender chunks of lean beef and tasty fresh vegatables in a delicious beef stock
Swissco - Kitchen Classics		
Cannelloni		Eight rolls of pasta with savoury beef filling in a tomato sauce

Source Shop Survey July 1986

The range is limited and it has not yet been sufficiently tested on the market to recommend that the Uruguayan Meat Industry should launch.

4.8.3 Comparison of Declared and Actual Meat Content in Sterile Prepared Meals

Table 4.8.3 compares the actual and declared meat contents of the Bernard Matthews sterile prepared meals.

TABLE 4.8.3 COMPARISON OF DECLARED AND ACTUAL MEAT CONTENT IN STERILE PREPARED MEALS

	Total Wt		% Meat		Meat Wt	
	Dec gm	Act gm	Dec	Act	Cal gm	Act gm
Bernard Matthew						
Beef Curry with Rice	380	376	32	15	122	57
Lasagne	320	319	29	18	93	56

Dec - Declared Act - Actual

Source: Shop Survey July 1986

The declared weight of meat is based on raw meat and the shrinkage during cooking in the factory is more than 50% in the Beef Curry.

The actual weight of meat in the final product is rather less than in the frozen foods. The pack size is not as flexible as for frozen products so that the consumer may not consider these products good value for money.

4.8.4 Cooking Instructions and Conditions for Sterile Prepared Meals

Table 4.8.4 shows the three different methods of cooking suggested for the sterile prepared meals by brand.

TABLE 4.8.4 COOKING TIME IN MINUTES FOR STERILE PREPARED MEALS

	Microwave	Oven	Boil in the Bag
Bernard Matthews			
Beef Curry with Rice			12
Lasagne		20	12
Lockwoods			
Beef Casserole	3		15
Swissco - Kitchen Classics			
Cannelloni		40	

Source: Shop Survey July 1986

As the packaging material is metal these products can only be cooked in microwave ovens if they are placed in another container.

4.8.5 Packaging of Sterile Prepared Meals

All three brands are packed in shallow oblong aluminium cans which can be sterilised using an overpressure and preferably a rotating retort.

The Bernard Matthews and Swissco products are sold in a printed sealed wax board box while the Lockwood cans are protected by a printed wax board sleeve.

4.9 SHOP SURVEY - CHILLED PREPARED MEALS

Two Own Label prepared meals were purchased from the chill cabinet in Tesco. There has been considerable publicity for this type product during the last year but the only product containing beef was the Tesco Beef Provencal. The Farmhouse casserole in fact contained lamb.

The reason for the lack of beef based products may be the very high price of beef of a suitable quality compared with poultry and fish where there has been considerable activity in the market. Mattesson Walls are test marketing a range of chilled complete meals (Attachment 7).

While the Meat Industry cannot supply these short shelf life products the absence of the products from the chilled market is another indicator that there is a niche which can be filled by high quality beef based prepared meals.

Table 4.9 details the price structure and other parameters for comparative purposes.

TABLE 4.9 TESCO OWN LABEL CHILLED PREPARED MEALS

	Beef Provencal	Farmhouse Casserole
Price Structure		
Price/kg	348p	363p
Weight/pack	14.10oz	16oz
Price/pack	139p	165p
Units/pack	2	2
Weight/unit	200gm	227gm
Price/unit	70p	83p
Cooking time		
Microwave	5mins	5mins
Oven minutes	25mins	25mins
Packaging		
Outer Pack	Printed waxed board sleeve	
Inner Pack	Deep plastic tray with non peelable plastic lid	

4.10 MARKETING OPPORTUNITIES AND SALES FORECAST

4.10.1 Products

Frozen convenience meals is the only growth market within the meat industry in the UK and Europe. Within this market there are two major sectors which are growing rapidly:-

Frozen reformed steaks which cannot be exported from Uruguay are growing rapidly but the quality is not equivalent to the fresh product and most of these products are not suitable for cooking in a microwave oven as it is essential that they should be browned (paragraph 4.7.4). In any event Uruguay is excluded from exporting raw meats to this market due to the high tariffs.

The second category of frozen meats are complete meals (paragraph 4.7.6) and cooked frozen meats as prepared dishes could be imported and would only be subject to duty at 26% of the landed value (paragraph 4.4.3.1 and Appendix 2). All the products within this sector tend to be low in meat content and relatively poor in quality particularly texture. The consultants have therefore identified a market for high meat content, high quality frozen convenience meals which can be prepared in a microwave or conventional oven.

Three specific products have been developed by the technical member of the team and these are:-

Steak Chasseur - rump steak with a vegetable sauce as garnish

Beef Kebabs - rump steak with peppers, onions and mushrooms presented in a kebab format

Boeuf Bourguignonne - the traditional French product manufactured from beef topside with bacon, onions and mushroom garnish.

4.10.2 Sales Forecast

In the first instance a sales forecast of 1000 tonnes/year split evenly between the three products is suggested. The rationale for the sales forecast is as follows:-

The total market for meat ready meals in 1985 (Table 4.6.4) was estimated at £119m at retail value. It would be unrealistic to believe the Uruguayan meat industry could achieve more than a 5% share of this market during the first three years after launch ie approximately £6m at retail values.

The price/tonne of the whole range of meat products varied from £1790 to £680 (Table 4.7.6.1). The suggested products however are the meat portion of the range and can therefore be compared with the products shown in Table 4.10.2 below.

TABLE 4.10.2 RETAIL PRICE PER TONNE OF READY MEALS WHICH ARE THE MEAT PORTION OF THE MEAL

		£/Tonne
Birds Eye - Menu Master	Lean Roast Beef & Gravy	4360
	Liver with Onion & Gravy	4510
	Lean Roast Beef & Gravy	5240
	Lean Roast Beef & Gravy	5700
Findus	Sliced Roast Beef with Gravy	4630
	Sliced Roast Beef with Gravy	4950
Sainsbury	Roast Beef in Gravy	4700
Average		4870

An average price of £4870 and a turnover of £6m would equate to approximately 1200 tonnes which should be achieved three years after launch.

5.0 THE URUGUAY MEAT INDUSTRY

5.1 BEEF PRODUCTION

Cattle in Uruguay are predominently Hereford and Aberdeen Angus which are reared under an extensive ranging system to mature at four years.

As shown in Table 5.1 the herd composition, which averages approximately 10 million head, is cyclic with 1984 representing the trough for both herd size and slaughter.

5.2 THE DOMESTIC MARKET

The market for beef in Uruguay can be classified according to the slaughterhouse of which three types can be defined:

- 9 with EEC licences
- 27 with export licences but not EEC
- small unlicensed rural slaughterhouses

Table 5.2 shows the kill in the three types of plants since 1980 in thousand head, the percentage of the annual kill and an index where 1980 = 100.

TABLE 5.2 ANNUAL KILL BY TYPE OF SLAUGHTERHOUSE

	EEC			EXPORT			DOMESTIC			TOTAL		
	'000 head	%	index	'000 head	%	index	'000 head	%	index	'000 head	%	index
1980	577	38	100	666	43	100	295	19	100	1538	100	100
1981	856	45	148	751	39	113	308	16	104	1915	100	125
1982	1002	47	174	828	39	124	318	15	108	2148	100	140
1983	980	45	170	889	41	133	297	14	100	2166	100	141
1984	586	40	102	620	43	93	245	17	83	1452	100	94
1985	683	44	118	619	40	93	238	15	81	1540	100	100

Table 5.2 and Graphs 5.2.1 and 5.2.2 illustrate the effect of the cyclic nature of production on the different markets.

Until 1983 the kill through the rural unlicensed slaughterhouses remained relatively stable at approximately 300,000 head per annum. The kill in the Ministry licensed slaughterhouses other than those licensed for export to the EEC increased by about a third but the main increase was in the 9 EEC licensed plants.

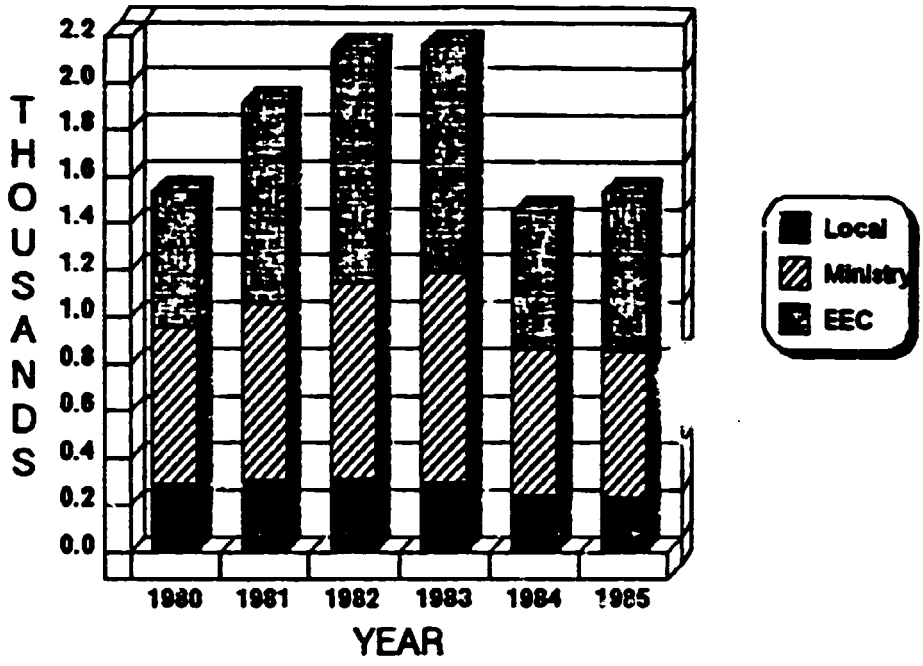
In 1984 there was a sharp [illegible] in the kill in all the slaughterhouses but in contrast to the previous recovery from [illegible] 1980/81 there was no increase in the kill in any of the non EEC [illegible] premises in 1985. Thus it can be seen that the kill [illegible] EEC licensed slaughterhouses takes up the slack in the market from year to year.

TABLE 5.1 HERD COMPOSITION, SLAUGHTER AND OFFTAKE

	1980		1981		1982		1983		1984		1985	
Herd Composition	'000	%	'000	%	'000	%	'000	%	'000	%	'000	%
Steers	2710	24	2681	23	2837	25	2641	27	2398	26	na	-
Cows and heifers	6092	55	6156	54	6078	54	5369	55	4967	55	-	-
Calves	2120	19	2337	20	2095	19	1496	15	1539	17	-	-
Bulls and oxen	251	2	247	2	227	2	198	2	181	2	-	-
Total	11173	100	11421	99	11237	100	9704	99	9085	100	9700	-
Slaughter	'000	%	'000	%	'000	%	'000	%	'000	%	'000	%
Steers	775	50	902	47	808	38	898	41	703	48	804	52
Cows and heifers	631	41	800	42	1096	51	1075	50	644	44	617	40
Calves	97	6	164	9	191	9	152	7	72	5	88	6
Bulls and oxen	35	2	49	3	54	3	42	2	32	2	31	2
Total	1537	99	1915	101	2148	101	2166	100	1452	99	1540	100
Offtake	%		%		%		%		%			
Steers	28.6		24.1		28.5		34.0		29.3			
Cows and heifers	10.4		13.0		18.0		20.0		13.0			
Calves	4.6		7.0		9.1		10.0		4.7			
Bulls and oxen	14.1		20.0		23.6		21.0		17.9			
Total	13.8		16.8		19.1		22.3		16.0			

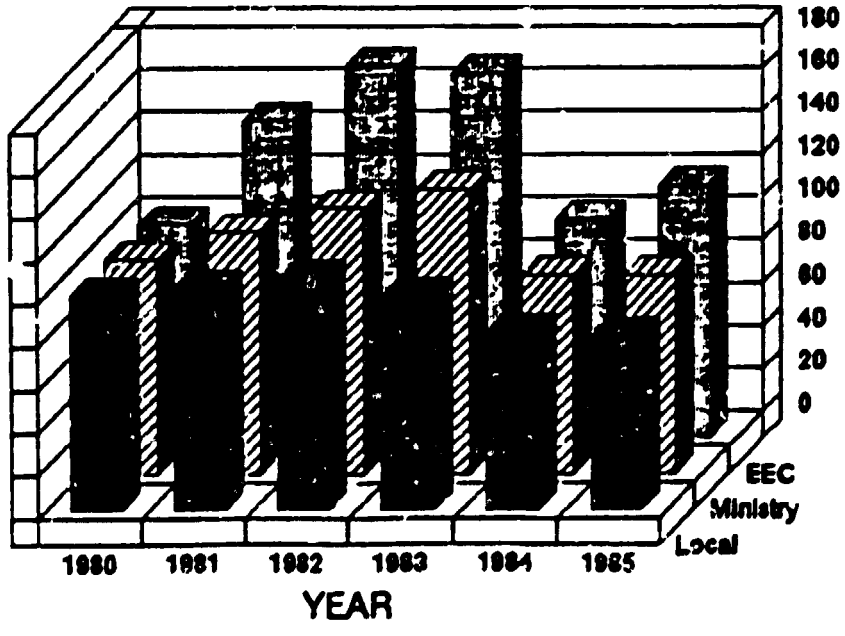
GRAPH 5.2.1 KILL BY SLAUGHTERHOUSE

000 HEAD



GRAPH 5.2.2 KILL BY SLAUGHTERHOUSE

INDEX 1980 = 100



5.3 TYPE OF ANIMAL

There are also considerable differences in the types of animals killed in the different types of plants as shown in Table 5.3.

TABLE 5.3 TYPE OF ANIMAL BY SLAUGHTERHOUSE TYPE 1985

	EEC		OTHER EXPORT		DOMESTIC		TOTAL	
	'000	%	'000	%	'000	%	'000	%
Steers	499	62	257	32	48	6	804	100
Cows	163	26	287	47	167	27	617	100
Calves	13	15	57	65	18	20	88	100
Bulls & Oxen	7	23	19	61	5	16	31	100
Total	683	44	619	40	238	15	1540	100

Thus while only 44% of the total kill is slaughtered in the 9 EEC licensed abattoirs 62% of steers are processed by these plants.

5.4 SEASONALITY

Due to the limited amount of land which is cultivated to provide forage crops steers are fattened on grass which is only available during the summer. For this reason a high percentage of cattle slaughtered in EEC licensed plants is killed between December and July. The seasonal effect is also dependent on the cyclic effect. In years when the kill is well above average such as 1982 and 1983 the seasonal effect is less marked in the EEC plants and their limiting factor is the daily slaughter capacity. These effects are illustrated in Table 5.4 which shows the monthly kill from 1981 to 1985 in Ministry licensed plants and the difference between EEC and non EEC plants.

Graph 5.4.1 illustrates the difference in seasonal effect between 1983, the top end of the cycle and 1984, the trough.

In 1983 slaughter in EEC licensed plants peaked at just under 100,000 animals per month from March through to June and only fell to 83,000 in July. This contrasted with a peak in 1984 of 90,000 and a much sharper decline to only 35,000 in July and 4,000 in September.

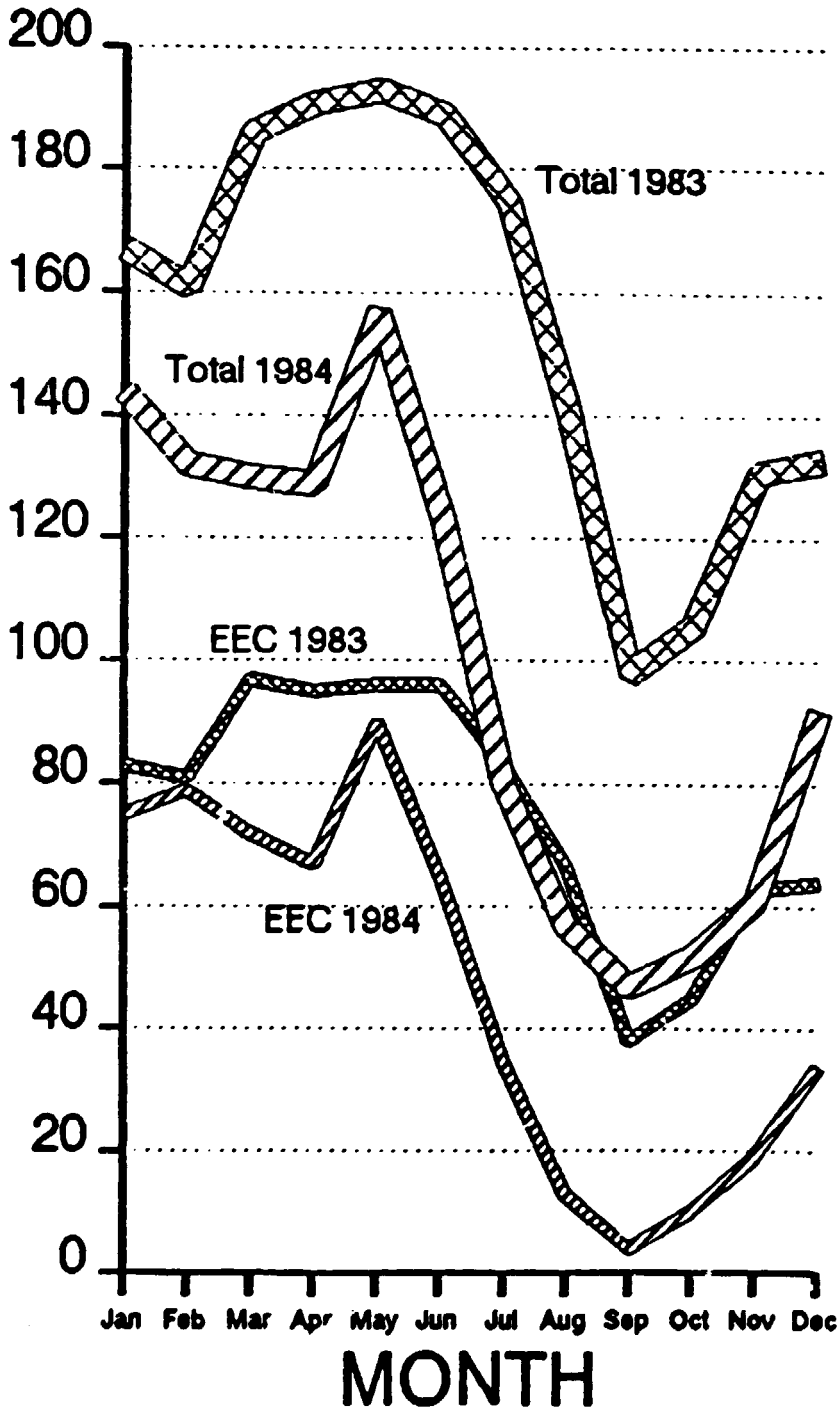
Slaughter in non EEC licensed premises while reflecting the cyclic and seasonal variations does not vary to the same extent as local butchers will be prepared to pay higher prices in July through to December to maintain supplies.

TABLE 5.4 SEASONALITY OF SLAUGHTER IN EEC AND OTHER PLANTS(000'head)

	1981			1982			1983			1984			1985		
	TOTAL	EEC	OTHER	TOTAL	EEC	OTHER	TOTAL	EEC	OTHER	TOTAL	EEC	OTHER	TOTAL	EEC	OTHER
January	135	68	67	138	72	65	167	83	83	144	75	68	133	73	60
February	136	72	64	150	86	64	161	81	79	132	79	54	104	58	46
March	167	91	75	156	85	71	186	97	89	130	72	59	110	64	45
April	170	96	74	158	91	67	191	95	96	129	67	62	121	78	43
May	180	108	72	173	102	71	193	96	97	157	90	67	125	83	42
June	181	108	73	165	99	66	189	96	93	124	65	59	111	66	45
July	155	87	68	174	107	67	175	83	92	80	35	45	109	62	47
August	109	58	52	161	94	66	141	67	74	57	13	44	70	25	45
September	85	36	50	127	66	61	98	38	61	47	4	43	63	18	45
October	90	44	46	135	75	60	106	45	62	52	10	42	88	34	54
November	84	39	45	144	73	71	131	63	68	61	19	43	121	55	66
December	115	55	60	150	79	71	133	64	69	92	34	58	146	80	66
Total	1606	861	746	1831	1030	801	1870	907	963	1207	563	644	1302	696	605

GRAPH 5.4.1 SEASONALITY OF KILL

'000 HEAD



5.5 PRODUCTION CAPACITY

5.5.1 Slaughter Capacity in EEC Plants

As shown in Table 5.4 the maximum monthly kill in EEC licensed slaughter plants during the period 1981 - 1985 was 108,000 head in May/June 1981. More recently the maximum monthly kill was an average of 96,000 head in the period March to June 1983. Table 5.5.1 shows the best performance in each of the nine EEC approved slaughter plants during this period compared to the declared capacity in August 1986.

TABLE 5.5.1 COMPARISON OF MAXIMUM ACTUAL SLAUGHTER 1983 WITH THEORETICAL CAPACITY 1986

Plant	Best Month	Slaughter Days	Total Head	Maximum Head/Day	Average Head/Day	Capacity Head/Day	Efficiency %
Plant 1	May	27	21491	1114	795	620	128
Plant 2	June	25	15412	901	616	600	103
Plant 3	March	26	15187	627	584	600	97
Plant 4	June	26	14048	653	540	570	95
Plant 5	March	25	13874	725	554	650	85
Plant 6	June	26	11296	512	434	640	68
Plant 7	March	25	9789	803	391	600	65
Plant 8	May	26	9241	428	355	400	89
Plant 9	May	23	5998	360	260	240	108

The theoretical capacity in head in 1986 shown in Table 5.5.1 assumes an eight hour shift. It can be see that at maximum production all the plants operate at least six days a week and in three plants an eight hour shift was insufficient at the top of the cycle in 1983. However it is unlikely that it would be cost effective to invest in further slaughter capacity and it can be seen from Table 5.5.1 that considerable additional slaughtering capacity could be achieved by operating two shifts during peak kill.

5.5.2 Boning Capacity in EEC Plants

Table 5.5.2 compares the slaughter and boning capacity in the nine EEC plants.

TABLE 5.5.2 COMPARISON OF SLAUGHTER AND BONING CAPACITY IN EEC PLANTS.

Plant	Slaughter Heads/8 Hours	Boning Heads/8 Hours	Boning/Slaughter %
Carrasco	620	490	79
Tacuarembo	600	190	32
San Jacinto	600	475	79
Canelones	570	150	26
Comargen	650	500	77
La Caballada	640	440	69
Santos Lugares	600	250	42
Colonia	400	125	31
Elbio Perez Rodriguez	240	160	67
Total	4920	2780	57

Table 5.5.2 shows that the boning capacity in eight hours is only 57% of the slaughter capacity but this varies from 79% in two plants to only 26% in one plant. Obviously boning capacity can be increased by operating more than one shift in the boning room and it is therefore unlikely that further boning capacity will be required for this project. It could however be argued that the lack of boning capacity is limiting the ability of the Uraguayan meat industry to maximise production of added value products for export.

5.5.3 Refrigerated Capacity

Refrigerated capacity in the slaughter houses can be classified in four ways:

Hanging rooms - chilled capacity only suitable for holding the carcases immediately after slaughter and prior to boning.

Chill or frozen capacity - hanging chillers with refrigeration plant capable of either chilling or freezing whole carcases.

Cold rooms - with hanging rails suitable for freezing carcases.

Either freezing tunnels or stationary freezing equipment - including plate frosters suitable for freezing boneless meat.

TABLE 5.5.3 COMPARISON OF SLAUGHTER, BONING AND REFRIGERATION CAPACITY IN EEC PLANTS

Plant	Slaughter Heads/ 8 hours	Boning Heads/ 8 hours	Chill Only Head	Chill Freeze Head	Freeze Carcase Head	Freeze Boneless Tonnes
Plant 1	620	490	0	2577	0	0
Plant 2	600	190	0	1671	0	0
Plant 3	600	475	0	1700	192	0
Plant 4	570	150	0	663	218	44.1
Plant 5	650	500	755	2125	0	0
Plant 6	640	440	0	2342	82	10.0
Plant 7	600	250	255	732	0	15.0
Plant 8	400	125	700	0	396	70.2
Plant 9	240	160	252	400	0	0
Total	4920	2780	1962	12210	888	139.3

5.5.3.1 Chill Capacity

The total chilled capacity in EEC plants is 14,172 head, rather less than three days kill at full capacity. To produce high quality products it is essential that the meat is matured prior to freezing. This can be achieved either by hanging for seven to ten days in the chiller prior to boning or alternatively by holding for up to a month in vacuum packs at 4C after boning. At the present time as demonstrated in Table 5.5.3.1 there would not appear to be sufficient chill capacity for seven days maturing on the hook and there may or may not be capacity for maturing in the box prior to freezing.

Table 5.5.3.1 CHILL CAPACITY IN DAYS AND BONELESS FROZEN STORAGE

	Chill Capacity Days	Boneless Cold Storage Tonnes
Plant 1	4.2	-
Plant 2	2.8	-
Plant 3	2.8	-
Plant 4	1.2	44.1
Plant 5	4.4	-
Plant 6	3.6	10.0
Plant 7	1.6	1.5
Plant 8	1.8	70.2
Plant 9	2.7	-

The chill capacity varies considerably between the plants from 4.4 days in Comargen to only 1.2 days at Canelones. In the initial stages of the project the new factory could draw meat from plants with relatively high chill capacity but in the long term if the project is successful it will

certainly be necessary to build specialist chill capacity for these carcases and/or the boned primal cuts.

5.5.3.2 Cold Storage Capacity

To ensure a constant supply of meat products the new plant will require to purchase boneless primal cuts which, after maturing, have been frozen for storage. At the present time this would limit the procurement to four plants, Plant 4, Plant 6, Plant 7 and Plant 8.

As can be seen from Table 5.5.3.1 only one plant, Plant 6, has relatively good chill capacity and storage for frozen boneless cuts.

It is not necessary to have a large cold storage capacity at the slaughterhouse as the frozen meat can be transferred to other EEC licenced cold stores or to the manufacturing plant but it would be advantageous to be able to store approximately 17 tonne minimum in order that lorries can be used economically. None of the existing EEC plants would meet this criteria.

5.5.4 Third Party Cold Storage

Four additional cold stores are licenced for EEC exports as shown in Table 5.5.4 below.

Table 5.5.4 THIRD PARTY COLD STORES WITH EEC LICENCES

	Volume m3	Capacity Boneless Beef Tonnes
Plant 10	13.29	2.905
Plant 11	14.04	3.070
Plant 12	11.13	2.435
Plant 12	51.76	11.320
Total EEC	90.22	19.730

The capacity of these four stores is again only small and it is therefore essential that cold storage capacity is provided for a buffer stock of high quality meat cuts to ensure that meat is always available for the factory, particularly during the seasonal kill at the bottom of the trough.

In summary therefore while there is almost certainly sufficient slaughtering capacity in EEC licenced plants and with additional working hours boning capacity could probably be made available, it will be essential to invest in additional chilling capacity and cold storage prior to the development of a new range of products.

5.6 STATUS OF SLAUGHTERHOUSES AND OTHER MEAT PLANTS

As discussed in paragraphs 5.2 to 5.5 above the meat plants including slaughterhouses in Uruguay can be classified with regard to status into four sub groups:

EEC Licenced
USDA Licenced
Export Licenced
Domestic Plants

The EEC plants also have USDA Licences but there are an additional six plants with USDA Licences which are not licenced for export to the EEC. As this report is mainly concerned with the export of meat products to the EEC the detailed capacities of EEC plants only have been dealt with in paragraphs 5.2 to 5.5 above.

The production of meat in third countries for consumption in the EEC is governed by:-

COUNCIL DIRECTIVE of 12 December 1972 on health and veterinary inspection problems upon importation of bovine animals and swine and fresh meat from third countries - (72/462/EEC)
as amended by Council Directives 77/98 of 21 December 1976, 81/476 of 24 June 1981 and 83/91 of 7 February 1983 and 3768/85 of 20 December 1985 and 87/66 of 30 December 1986. Article 3 of Council Directive 83/91 states that Member States shall comply with these amendments not later than 1 January 1985.

This Directive however relies heavily upon:-

COUNCIL DIRECTIVE of 26 June 1964 on health problems affecting intra-Community trade in fresh meat - (64/433/EEC)
as amended by Council Directive 83/90 of 7 February 1983 and 85/323 of 12 June 1985 and 85/325 of 12 June 1985 and 3768/85 and 85/586 of 20 December 1985 and 86/587 of 18 November 1986.

At the present time there is no regulation governing the importation of meat products as distinct from fresh or carcase meat from third countries into the EEC. However a Draft Directive has been prepared and circulated by the EEC and a copy of this "Proposal for a Council Directive on public health and animal health problems affecting the importation of meat products from third countries" is shown at Appendix 5.

It can be seen that this proposal relies heavily upon two EEC Directives as follows:

COUNCIL DIRECTIVE of 21 December 1976 on health problems affecting intra-Community trade in meat products - (77/99/EEC)
as amended by Council Directive 80/214 of 22 January 1980 and 81/476 of 24 June 1981 and 85/327 of 12 June 1985 and 85/328 of 20 June 1985 and 3768/85 and 85/586 of 20 December 1985.

and

COUNCIL DIRECTIVE of 22 January 1980 on animal health problems affecting intra-Community trade in meat products - (80/215/EEC)
as amended by Council Directive 80/1100 of 11 November 1980 and 81/476 of 24 June 1981 and 85/321 of 12 June 1985 and 3768/85 of 20 December 1985.

In addition to the four Directives the following also applies to exports from Uruguay:-

COMMISSION DECISION of 21 December 1984 concerning animal health conditions and veterinary certification for imports of fresh meat from Uruguay - (85/96/EEC)
as amended by Commission Decision 85/354 of 4 July 1985 and 85/414 of 29 July 1985.

The four Council Directives and Commission Decision quoted above are all available in the library at INAC and have therefore not been reproduced as attachments. However the Meat and Livestock Commission in the UK provide an updated EEC legislation service on changes in veterinary regulations which ensures, upon annual subscription, that the documentation is maintained up to date.

Information on this service can be obtained from;-

Meat and Livestock Commission
PO Box 44
Queensway House
Bletchley
MK2 2EF

Telephone: 0908 74941
Telex: 82227

At the present time only two plants are involved in the exportation of meat products from Uruguay to the EEC. These are Canelones which exports corned beef and canned cubed beef and Colonia which exports cooked frozen beef.

For commercial and marketing reasons which will be discussed below, it is recommended that any new plant for producing frozen prepared meals should be on a green field site and not attached to a slaughterhouse. However the conditions of EEC Directive 77/99 which covers the production of meat products will also be more easily met on a new site unattached to a slaughterhouse where strict segregation of live animals, fresh meat, offals, packaging materials and cooked and prepared products make the logistics with regard to separate entry to the plant of both materials and personnel extremely complex.

In addition it may be found desirable to incorporate the meat products plant with other food processing including vegetables which again will have to be segregated from slaughtering facilities.

5.7 QUALITY CONTROL AND QUALITY ASSURANCE IN URUGUAYAN MEAT PLANTS

Quality control and quality assurance is under the direction of both the Ministry of Agriculture and the Ministry of Industry and Energy in addition to the commercial involvement of the individual meat plants. For the purposes of this report quality control will be discussed under the following headings:-

Plant Inspection
Livestock and Meat Inspection
Product Quality Control
Quality Assurance
Development
Special Projects
Training

5.7.1 Plant Inspection

Plant inspection is controlled by the Veterinary Inspectorate of the Ministry of Agriculture in association with INAC which is jointly financed by the Ministry of Agriculture and the meat plants. These organisations arrange for EEC inspection by EEC nominated veterinarians and act as the liaison between the various plants and the regulatory authorities in Europe.

In addition the Engineering Department of INAC are responsible for routine quality control of all water supplies.

5.7.2 Livestock and Meat Inspection

Livestock and meat inspection is the responsibility of the Ministry of Agriculture who employ 150 qualified veterinarians as meat inspectors assisted by technical assistants in each of the meat plants.

Between three and five veterinarians with ten to fifteen assistants are available in each of the meat plants and are responsible not only for ante and post mortem inspection of the carcase but also for hygiene throughout the slaughter and boning plants.

5.7.3 Product Quality Control in Manufacturing Plants

Responsibility for product quality control within the meat plants is shared between the plant management who employ qualified veterinarians (food technologists and microbiologists), the Ministry of Agriculture who are responsible for grading and INAC who provide a further level of inspectorate within the plants.

5.7.3.1 Quality Control by the Ministry of Agriculture in Manufacturing Plants

The Ministry of Agriculture are responsible for grading the carcases on the line using a 6 point scale "INACUR" for both conformation and fat cover.

Details of the grading system which is similar to that operated in Europe and Australasia are available from INAC.

The Ministry also carry out laboratory tests on meat and meat products to control suitability for human consumption. These are similar to those described below for control by INAC. However if a product is failed by the Ministry of Agriculture, the INAC samples are not completed.

5.7.3.2 Quality Control by INAC in Manufacturing Plants

For inter-governmental contracts and the high quality beef quota INAC are responsible for the quality control throughout the production sequence including the conformation of the carcases.

The importing government including in the case of high quality cuts the EEC provide complete specifications which are an integral part of the tender document negotiated by the Marketing Division of INAC (see paragraph 4.4.4.2.2 above).

INAC inspectors are allocated to the different exporting plants on a weekly basis so that the personnel have experience throughout the country and do not build up loyalty to any one manufacturing plant. These inspectors work directly on the line while the export order is being processed and if they are not satisfied with the quality have the authority to stop the line and ensure that the mistakes are rectified. While the Ministry of Agriculture are responsible for grading carcases if the INAC inspector is not satisfied with the grade given he has the authority to reject this meat for export.

When high quality cuts are being processed for export to the EEC the INAC inspector sends a certificate of quality with each consignment and each box is marked with a serial number.

In addition to the control of trimming INAC are also responsible for the temperature control at boning and throughout processing.

For corned beef manufacture INAC take samples which are transferred to the laboratory in Montevideo and tested for protein, fat, water, salt and nitrite content. For EEC regulations it is now necessary to test the protein/water ratio.

For canned goods INAC are responsible for control of metal thickness and seams and sterility control at 37C and 55C with ten days incubation.

For the export of cooked frozen meats INAC inspect the process throughout and control the time of cook, meat quality, water quality. The product is cut open for inspection to determine that it has been adequately cooked. No chemical or microbiological tests however are carried out.

The Quality Control Department at INAC has a total of 36 staff including 20 inspectors of whom ten are graduates of the University Department of Veterinary Medicine (see paragraph 5.7.7 below) and five are students in the Faculty. Seven laboratory staff include two veterinarians, two chemists and three university students.

5.7.3.3 Quality Control by the Manufacturing Plant

Quality control inspectors were seen in operation on the boning lines and have the power to stop the line if the boning and trimming is not up to the required export standard. In addition in-plant laboratories check for hygiene throughout the plant, sterility of canned goods and the chemical content of meat products.

With regard to canned goods there is 100% incubation followed by inspection before the products are labelled for export.

5.7.4 Quality Assurance

Quality assurance is the joint responsibility of the quality control department of INAC and the laboratories of the Ministry of Industry and Energy Technological Laboratory of Uruguay (LATU).

5.7.4.1 INAC

INAC are responsible for inspection of all meat and meat products at the dock prior to export with particular regard to the quality of trim and the standard of boning.

Products exported under a government to government tender or as part of a high quality cuts quota are again inspected by INAC at the dock before final export using a statistical testing technique which normally involves approximately ten boxes per hour of production being opened and inspected. This inspection includes temperature control and level of trimming. At this stage if the product is not satisfactory additional sampling will be carried out and if necessary all or part of the consignment rejected.

This final inspection by INAC is important in relation to this project in terms of the stock holding. It is obvious that the product must be available for inspection at least two to three days and preferably a week before sailing. This final inspection must be completed and the certificate issued to the bank before payment is made.

Where meat is being exported under the GATT quota or the manufacturing meat quota to the EEC INAC are not responsible for checking in the production plant but a larger sample is inspected at the docks.

5.7.4.2 LATU

LATU have chemical, physical, organoleptic, microbiological and chromatographic laboratory facilities which are responsible for the quality control of all products including meat and meat products prior to export.

At the present time LATU responsibilities to the meat industry are limited to sterility testing of canned goods, and a limited amount of chemical analysis for meat content, salt, water and nitrite.

The exporting banks in Uruguay require certification from both INAC and LATU prior to releasing the payment for exports.

It is understood that if importers require specific tests to be carried out these can be commissioned through the exporting meat plant or company who will commission either INAC or LATU to carry out the tests and certify the goods accordingly. This additional quality control will be to the cost of the exporter and may therefore be involved in the final price of the product. Alternatively private quality inspection companies are available in Uruguay and can be commissioned by importers to carry out additional inspections.

5.7.5 Development

In addition to their quality assurance responsibilities LATU also have a small pilot plant. A new development will be opened in early 1987 which will provide pilot plant facilities for a wide range of products including meat. The facilities, both present and planned, will be discussed in Chapter 11 - the Development Programme.

5.7.6 Special Projects;- Hormones, Pesticides, Antibiotics and Heavy Metals

In addition to the routine quality control and quality assurance discussed above the Ministry of Agriculture operate a control laboratory for sampling all meat plants and meat products for hormones, antibiotics, pesticides and heavy metals.

The use of hormone implants has been banned by law in Uruguay since 1964 and a total of over 6,000 samples have all proved negative.

Between 4,000 and 5,000 samples are examined annually for pesticides and if traces are found the sampling is repeated until the level of contamination is controlled below the required standard.

Approximately 5,000 samples of meat sampled for antibiotics have likewise proved negative.

5.7.7 Training for Quality Control

The Veterinary Faculty of the University in Montevideo is responsible for training all veterinarians in Uruguay. The degree is entitled Doctor in Veterinary Medicine and Technology. The six or seven year course includes 35 separate modules each subjected to a final examination. The first four to five years are common for all graduates and include biology, chemistry, biochemistry, physiology and anatomy. In the final two years the students specialise and subjects include meat, milk and fish technology, medicine and surgery of large and small animals, radiology, nutrition, poultry, horse and fur animals.

Included in the course for graduates specialising in meat technology is a separate module including meat exporting.

The majority of managers in both the meat plants and the controlling laboratories are graduate veterinarians and a high proportion of the senior managers have masters degrees from either the US or Europe.

Meat inspectors and technical assistants are trained on the job and attend specialist courses conducted by the Ministry of Agriculture.

There is a very high standard of awareness of the requirements of the meat industry throughout the meat plants and in the laboratories and there is no doubt that a high degree of professional care is directed to all exports from Uruguay.

5.8 THE MEAT PROCESSING INDUSTRY

Meat processing in Uruguay provides for two separate markets. Within the beef industry corned beef, canned cubed beef and cooked frozen beef is processed by a limited number of slaughterhouses for export. On the other hand the pig industry produces a range of continental type sausages and cooked meats for sale on the domestic market.

In total pork production approximates to 18,000 tonnes/annum so that the total consumption per capita is approximately 6kg/annum including both carcase and processed products. This is very small by European standards and it can be assumed that the pork processing industry is relatively undeveloped. Examination of the products in the supermarkets would confirm this view. There is not therefore a pork processing industry in Uruguay to provide a pool of experience for a developing beef industry.

Two of the EEC licenced slaughterhouses produce meat products. Canelones produces corned beef and canned cubed beef in brine while Colonia produces cooked frozen beef.

5.8.1 Corned Beef

Table 5.8.1 shows the increase in production of corned beef since 1980 in carcase equivalent and shipped weight, total value and value/tonne.

TABLE 5.8.1 CORNED BEEF EXPORTS FROM URUGUAY

	1980	1981	1982	1983	1984	1985	Jan-Jun 1986
Shipped Wt Tonnes	1170	2398	1963	2788	2975	3243	3080
Value $US'000	3750	6993	4477	6390	6293	6242	5783
$US/tonne Shipped Wt	3205	2916	2281	2292	2115	1925	1878
$US/tonne Carcase Wt	1093	995	778	782	721	657	640
INDEX							
Weight tonnes	100	205	168	238	254	277	263
Value $US'000	100	186	119	170	168	166	154
$US/tonne	100	91	71	72	66	60	59

Source - INAC

While the shipped weight of corned beef has almost trebled the value/tonne fell by more than 40% between 1980 and 1986. At the present time there is a shortage of corned beef due to the difficulties in Brazil but as has been shown in Table 4.5.2.2 above the market is stable or declining slowly in the UK which is the major importer with 58% of the market in 1984 and 80% in 1985. With the readmission of Argentine products to the UK investment in further canning equipment cannot be recommended.

An important aspect of the corned beef market in the context of this report is the excellent trading relationship which has been built up between the manufacturer in Uraguay and Tesco, the second largest multiple group in the UK, to supply own label cans to the Tesco specification.

5.8.2 Cooked Frozen Beef

Cooked frozen beef was developed in co-operation with the United States Government in the early 1960s to provide an outlet for South American beef which was free of the Foot and Mouth Disease virus.

For export to the United States the beef must be fully cooked and should not have either externally or internally a red or pink appearance and when pressed should not exude red or pink juices. For export to the United Kingdom the temperature must reach 80C at the centre of the meat block.

For the US the minimum dimension on each piece of meat is limited to 1.5 inches (approximately 4cm) although the EEC will allow the importation of ground meat.

In order to ensure complete separation between raw and cooked meat the product is cooked in a plant which passes "through the wall". The raw area of the plant is close to the boning and cutting rooms and beef is inspected and prepared for cooking by placing inside plastic tubes which are hung in cooking baskets. These cooking baskets then slide by gravity to the other end of the cooker which is in an isolated cooked beef area. When full the

raw end of the cooker is locked by controls located in the cooked beef area.

Contact between the cooked beef plant and the raw meat plant is through dressing rooms where special clothing is supplied to all personnel including supervisors and visitors.

After the controlled cooking the product in the baskets is rapidly cooled and drained and the final cooked meat is stuffed into plastic tubes which are stretched and both ends sealed by clipping. Each individual tube is stamped with the lot number including cooker number, batch and date of production. Freezing is in tunnels or plate freezers prior to boxing and storing in a specific frozen storage area for cooked beef separated from the general storage of the packing house.

Quality control of cooked beef is very stringent and includes microbiological, chemical and organoleptic analysis of a minimum of one tube from each batch in addition to continuous microbiological testing of the atmosphere, water, hands, machinery and equipment.

The understanding of this technology is important in the present context as it indicates that the Uruguayan meat industry is aware of the very rigid mircobiological and hygiene requirements for frozen prepared meals.

The cooked frozen meat is used in the United States and to a more limited extent in the EEC for the production of prepared meals. As shown in Table 5.8.2 there are three basic types of cooked frozen beef; pie beef, dinner beef and cuts but on occasions other qualities have been manufactured.

TABLE 5.8.2 THE DEVELOPMENT OF THE COOKED FROZEN MARKET FROM 1980 - 86

	1980	1981	1982	1983	1984	1985	Jan-Jun 1986
Shipped Wt Tonnes							
Pie Beef	69	58	108	250	389	327	367
Dinner Beef	39	6	80	289	505	347	36
Cuts Beef	10		76	119	200	511	345
Trimming		10	22	12			
Others			31				
Total Shipped Wt Tonnes	118	73	317	669	1094	1186	748
Value $US'000							
Pie Beef	270	257	312	629	941	753	793
Dinner Beef	154	25	239	769	1325	883	84
Cuts Beef	47		257	377	647	1570	1008
Trimming		27	60	27			
Others			72				
Total Value $US'000	470	309	940	1803	2913	3206	1886
$US/tonne Shipped Wt							
Pie Beef	3924	4425	2896	2519	2417	2302	2162
Dinner Beef	3993	4429	2983	2665	2623	2542	2309
Cuts Beef	4494		3361	3179	3236	3071	2923
Trimming		2744	2750	2277			
Others			2365				
Average $US/tonne	3997	4202	2969	2695	2662	2704	2520
INDEX							
Shipped Wt Tonnes	100	62	269	568	930	1008	636
Value $US'000	100	66	200	383	619	682	401
$US/tonne Shipped Wt	100	105	74	67	67	68	63

Source: INAC

While the total capacity of the plant with one shift production is 250 tonnes per month the maximum annual sales to date have been rather less than 1200 tonnes. It would therefore not seem appropriate to increase the investment in this product even though there has been a tenfold increase in sales since 1980.

While the average price realised for cooked frozen beef was $US2,520/tonne compared to $US1,878 for corned beef in 1986 the price has again been reduced by almost 40% since 1980. However the sale of the higher quality "cuts" to the USA more than doubled between 1984 and 1985 and the price has fallen less dramatically than the other meats. Almost all the exports of cooked frozen beef is to the US. Attempts have been made to sell this product in the UK, particularly to Birds Eye, but it is understood that the

quality was not considered good enough for their sliced meats range with significant break-up on the production line.

5.8.3 Canned Meats

Canelones have a canned meat plant for producing cubed beef in natural juices which is exported as the raw material for the manufacture of ready meals including steak and kidney pies, beef stews etc.

The development of this market since 1980 is shown in Table 5.8.3.

TABLE 5.8.3 DEVELOPMENT AND PRICE STRUCTURE OF THE CANNED MEAT MARKET - 1980-86

	1980	1981	1982	1983	1984	1985	Jan-Jun 1986
Shipped Wt Tonnes	248	181	105	69	356	229	323
Value $US'000	674	575	321	168	900	495	695
$US/tonne	2720	3179	3062	2445	2526	2160	2151
INDEX							
Shipped Wt Tonnes	100	73	42	28	144	93	130
Value $US'000	100	85	48	25	134	74	103
$US/tonne	100	117	113	90	93	79	79

Source: INAC

This market has not grown as rapidly as corned beef or cooked frozen beef. There is considerable spare capacity at the present time in Canelones and it is therefore not recommended that any further investment should be made in this type of plant.

5.9 URUGUAYAN BEEF EXPORTS

Table 5.9 shows the development of Uruguayan beef exports from 1980 to the first half of 1986.

TABLE 5.9 DEVELOPMENT OF URUGUAYAN BEEF EXPORTS 1980-1986

	1980	1981	1982	1983	1984	1985	Jan-Jun 1986
Carcase Wt Tonnes	116713	172957	168894	231605	143805	133875	108816
Shipped Wt Tonnes	96446	142054	121054	161201	96513	96981	80447
Value $US'000	160258	221471	176232	231234	139692	114247	89809
$US/tonne Carcase Wt	1373	1280	1043	998	971	853	825
$US/tonne Shipped Wt	1662	1559	1456	1434	1447	1178	1116
INDEX							
Carcase Wt Tonnes	100	148	145	198	123	115	-
Shipped Wt Tonnes	100	147	126	167	100	101	-
Value $US'000	100	138	110	144	87	71	-
$US/tonne Carcase Wt	100	93	76	73	71	62	60
$US/tonne Shipped Wt	100	94	88	86	87	71	67
Shipped Wt/Carcase Wt	83	82	72	70	67	72	74

Source - INAC

While the shipped weight of exports increased from 96,500 tonnes in 1980 to 161,200 tonnes in 1983 with the fall in production and difficulties on the world market this was reduced in 1984 and 1985 to the previous levels. However the carcase weight utilised in export which almost doubled between 1980 and 1983 was still 15% above the 1980 level in 1985. This indicates an increase in processing within Uruguay as shown by the ratio shipped weight/carcase weight which has decreased from 83% to 67% in 1984 with a slight increase in 1985 and 1986 when a considerable amount of bone in carcases were shipped direct to Brazil.

When added value products such as corned beef, cooked frozen meat and, to a lesser extent canned meats are sold the shipped weight is very significantly less than the carcase weight due to the removal of bones, trimming and cooking loss. Appendix 6 shows the conversion factors used by INAC to convert from shipped weight to carcase weight.

Despite the increase in shipped weight and the percentage of added value products exported the total value of exports has fallen by nearly 30% between 1980 and 1985 from $US160m to $US114m. By June 1986 the return per carcase had fallen by 40% compared to 1980.

Uruguayan beef exports can be examined in a number of ways including:-

Country of destination
Uruguayan slaughterhouse
Type of meat

5.9.1 Uruguayan Exports by Country of Destination

Appendix 7 shows the destination of Uruguayan refrigerated meat exports from 1970 to June 1986 and indicates that meat has been exported to over 50 different countries.

Sales to individual countries have fluctuated wildly. Thus while in 1970 almost 46,000 tonnes were exported to the EEC including 15,000 tonnes to West Germany and over 18,000 tonnes to Italy by 1977 sales had fallen to 7,600 tonnes in the EEC. Since 1977 sales have increased to reach 20,500 tonnes in 1985 of which 57% is exported to the United Kingdom.

The sales to Brazil have also fluctuated wildly over the 16 year period reaching a high in 1981 of over 62,500 tonnes, 45% of Uruguayan refrigerated beef exports.

Table 5.9.1 contrasts the development of the Uruguayan meat exports to the EEC from 1980 to 1985 with those to Egypt, Brazil and Iran.

TABLE 5.9.1 DEVELOPMENT OF REFRIGERATED EXPORTS BY DESTINATION 1980-1985

	1980	1981	1982	1983	1984	1985
Carcase Wt tonnes						
EEC	19279	35555	35376	33010	28147	32912
Egypt	9482	34164	37181	82329	19242	-
Brazil	59030	64574	16141	22315	24756	51756
Iran			11526	34087	6319	3335
Others	24578	31148	59773	49854	52999	32452
Total Carcase Wt	112369	165441	161997	221595	131463	120455
Shipped Wt tonnes						
EEC	11642	21511	21267	20390	17718	20579
Egypt	9143	32970	28246	60393	12064	
Brazil	57004	62541	17179	19531	23868	48620
Iran			7206	21371	3962	2091
Others	17122	22380	44771	35979	34474	20885
Total Shipped Wt	94911	139402	118669	157664	92086	92175
Value $US'000						
EEC	29568	47406	39784	39546	33480	34674
Egypt	12718	47743	41118	84089	17748	
Brazil	76354	72766	15617	16170	21527	36330
Iran			13499	37295	6735	1964
Others	36324	45679	60475	45756	50096	30933
Total Value $US'000	155364	213594	170493	222856	129586	103901
$US/tonne Carcase Wt						
EEC	1554	1333	1125	1198	1189	1054
Egypt	1341	1397	1106	1021	922	
Brazil	1293	1127	861	725	870	702
Iran			1171	1094	1066	589
Others	1478	1467	1012	918	945	953
Average $US/tonne	1383	1291	1052	1006	986	863
$US/tonne Shipped Wt						
EEC	2574	2204	1871	1939	1890	1685
Egypt	1391	1448	1456	1392	1471	
Brazil	1339	1163	909	828	902	747
Iran			1873	1745	1700	939
Others	2121	2041	1351	1272	1453	1481
Average $US/tonne	1637	1532	1437	1413	1407	1127

Source - INAC

There has been a steady increase in sales of Uruguayan refrigerated beef

during the year of shortage in 1984. This contrasts with the enormous fluctuations in trade to Egypt, Brazil and Iran which are based on government-to-government tenders and can easily be lost to other subsidised meat supplies.

Between 1980 and 1983 sales to Egypt increased from 9,000 tonnes to over 60,000 tonnes but by 1985 there were no further sales to this market due to the entry of the EEC into the Middle Eastern market with considerable exports of subsidised intervention beef.

In addition to the relatively stable tonnage shipped to the EEC since 1980 the value/tonne carcase weight in 1985 was $US191/tonne above the average of all refrigerated exports and $US465/tonne better than exports to Iran. Thus while sales to the EEC are not spectacular in terms of tonnage they do tend to be considerably more stable and profitable.

There are three main reasons for this highly fluctuating export pattern:-

The cyclic and seasonal variations in Uruguayan meat supply

The relative isolation of Uruguay in relation to the European and Middle Eastern markets compared to European and to a lesser extent Australasian competitors.

The fragmented marketing effort of Uruguayan meat plants.

Most contacts are directly between meat plants and agencies or wholesalers within the importing countries. The marketing division of INAC only becomes involved in the export of beef when government-to-government tenders are negotiated. These tenders which have recently been mainly with Egypt and Iran are negotiated on a yearly basis and are exceptionally vulnerable to competition from subsidised exports, particularly from the EEC.

Another reason for the fragmentation of the market would appear at first sight to be positive. Uruguayan exporters prefer not to be reliant upon one particular market and for this reason have tended to diversify their efforts. There is also an anxiety not to be seen to compete between agencies so that each exporting company in Uruguay will tend to have an independent agency in the importing country. It must be questioned whether this competitive attitude is correct in the present trading climate. Where there are obvious dangers in a close relationship with one customer there can be very positive advantages in building up a trading relationship, as has been demonstrated by the increase in sales of corned beef packed under the Tesco own label.

5.9.2 The Importance of EEC Slaughter Plants

As discussed above exports to the EEC are only permitted from EEC-approved slaughter plants. However, as demonstrated in Table 5.9.2, the nine EEC licenced slaughter plants accounted for 81% of shipped weight of exports in 1985 which was equivalent to 86% by value. Thus the average value per tonne shipped weight of exports from EEC licenced plants in 1985 was $US1244 compared with only $US896 in non EEC licenced export plants.

TABLE 5.9.2 COMPARISON OF EXPORTS FROM EEC LICENCED AND OTHER SLAUGHTER PLANTS

	EEC	Others	Total
Shipped Weight in Tonnes			
Frozen	61583	13408	74991
Chilled	12452	4732	17185
Processed Products	4523	228	4752
Cured Meat		54	54
Total Exports Shipped Wt in Tonnes	78558	18423	96981
Value $US'000			
Frozen	77034	12727	89761
Chilled	10875	3266	14140
Processed Products	9831	428	10259
Cured Meat		87	87
Value Total Exports $US'000	97740	16508	114248
$US/tonne			
Frozen	1251	949	1197
Chilled	873	690	823
Processed Products	2174	1876	2159
Cured Meat		1598	1598
Total Exports $US/tonne	1244	896	1178

Source - INAC

Table 5.9.2 also illustrates the differences between frozen, chilled and processed exports. Frozen products accounted for approximately 78% of exports in both value and tonnage terms from EEC plants and in total.

Of considerable interest in the context of this report is the very low value/tonne of the chilled exports, indicating that these are mainly of bone in products to neighbouring countries rather than high quality cuts air freighted to Europe and the US.

5.9.3 Export of Refrigerated Meat from EEC Slaughterhouses

Processed products have been discussed in paragraph 5.8 above and will not be dealt with in the following paragraph.

It is important in the context of this report that any recommendations for new marketing opportunities will not be to the detriment of existing trading relationships. It has been shown in paragraph 4.7 above that there would appear to be a niche for high quality frozen prepared meals in the UK market. It is therefore important that the hind quality cuts required for this production are available at competitive prices so that the production of added value products will increase the return to Uruguay.

Table 5.9.3 shows the shipped weight in tonnes, total value in $US and the value/tonne of Uruguayan beef exports from EEC authorised slaughter plants in 1985.

TABLE 5.9.3 EXPORTS OF REFRIGERATED URUGUAYAN BEEF FROM EEC AUTHORISED PLANTS IN 1985

	Shipped Wt tonnes	Value $US'000	Value/tonne $US
Frozen			
Boneless Hindquarter	24096	41168	1708
Boneless Forequarter	12877	16265	1263
Bone in Forequarter	9481	5631	594
Bone in Sides	8015	7779	971
Carnes Chicas	2412	2366	981
Bone in Manufacturing	1441	951	660
Boneless Manufacturing	1320	1162	880
Boneless Compensated Quarters	981	1119	1141
Bone in Hindquarter	950	576	606
Other Boneless	10	18	1721
Total Frozen	61583	77034	1251
Chilled			
Bone in Forequarter	5937	3674	619
Bone in Sides	3777	2757	730
Bone in Manufacturing	1832	1374	750
Boneless Hindquarter	903	3064	3392
Boneless Forequarter	3	6	1833
Total Chilled	12452	10875	873
Total Refrigerated	74035	87909	1187

Source: INAC

25,000 tonnes of boneless hindquarters (frozen and chilled) were exported from EEC licenced slaughter plants in 1985. However 96% of the tonnage was in the frozen form and only realised $US1708/tonne.

It has been shown in paragraph 4.4.4 that the total EEC allocation for high quality cuts from Uruguay in 1986 was only 4,600 tonnes and therefore any increased utilisation of that boneless hind quarter cuts which increases the return over $US1708/tonne will increase the total returns to Uruguay. In fact, as demonstrated in Table 5.9 above, the value in $US/tonne has tended to fall between 1985 and June 1986.

5.9.4 Export of Boneless Hindquarter Meat from EEC Slaughterhouses

As has been shown in paragraph 5.9.3 above approximately one third of the shipped refrigerated meat exports in 1985 were boneless hindquarters which represented over 50% of the total value. Table 5.9.4 analyses the sales of boneless hindquarters (chilled and frozen) from all slaughterhouses during the first six months of 1986

TABLE 5.9.4 EXPORTS OF BONELESS HINDQUARTERS (CHILLED AND FROZEN) JANUARY - JUNE 1986

	Shipped Wt tonnes	Value $US'000	Value/tonne $US
Chilled Boneless Hindquarter	879	3089	3513
Frozen Boneless Hindquarter	18992	32206	1696
Total Boneless Hindquarter	19871	35295	1776

Source - INAC

The average value of the 879 tonnes of chilled boneless hindquarter exported in 1986 was $US3513/tonne, an increase of $US121/tonne compared to 1985. This would appear to represent an increase in both price and tonnage as the total tonnage in 1985 was only 903 tonnes compared to 879 tonnes in the first six months of 1986.

On the other hand the average value of the frozen hindquarters had fallen from $US1708/tonne to $US1696/tonne in the first six months of 1986.

5.9.4.1 Chilled Boneless Hindquarters

Table 5.9.4.1 shows the 14 different specifications of hindquarter cuts exported chilled from Uruguay in the first six months of 1986 in order of value in $US/tonne.

TABLE 5.9.4.1 EXPORTS OF CHILLED BONELESS HINDQUARTER CUTS JANUARY - JUNE 1986

	Shipped Wt tonnes	Value $US'000	Value/tonne $US
Fillet 5lb	1	5	6501
Fillet 4/5lb untrimmed	2	13	5900
Fillet 4/5lb trimmed	1	6	5900
Fillet 3/4lb trimmed	3	13	5116
Rump and Striploin	234	1077	4601
Striploin and Fillet	59	203	3430
6 HQ Cuts	186	593	3197
Fillet 3/4lb untrimmed	22	70	3195
Striploin trimmed	17	52	3118
Fillet combined	53	163	3068
3 HQ Cuts - Round	73	222	3032
Striploin untrimmed	107	320	2981
Rump	111	325	2928
7 HQ Cuts	10	25	2450
Total Chilled Boneless Hindquarter	979	3089	3513

Seven different specifications of fillet totalling 82 tonnes were exported. The value in $US/tonne varied from $US3068 for untrimmed fillet to $US6501 for a 5lb trimmed fillet with an average of $US3312. The other cuts which are exported chilled include striploin, rump and hindquarter cuts sold packed in either three, six or seven cuts to a consignment.

5.9.4.2 Frozen Boneless Hindquarter

Fifty three different specifications of boneless frozen hindquarter were exported from Uruguay in the first six months of 1986 as shown in Table 5.9.4.2.

TABLE 5.9.4.2 EXPORTS OF FROZEN BONELESS HINDQUARTER JANUARY-JUNE 1986

	Shipped Wt tonnes	Value $US'000	Value/tonne $US
Fillet 5lb trimmed	1	4	6468
Fillet 4/5lb trimmed	21	113	5482
Fillet untrimmed & trimmed	0	2	5201
Fillet 4/5lb untrimmed	17	85	4974
Fillet 3/4lb trimmed	74	352	4730
Fillet 3/4lb untrimmed	23	94	4034
Fillet 2/3lb trimmed	86	341	3944
Fillet 2/3lb untrimmed	15	55	3644
Fillet 2lb	5	18	3282
Striploin and Fillet	105	330	3145

TABLE 5.9.4.2 EXPORTS OF FROZEN BONELESS HINDQUARTER JANUARY-JUNE 1986 (continued)

	Shipped Wt tonnes	Value $US'000	Value/tonne $US
Fillet Combined	19	58	3068
Rump and Loin	501	1401	2797
3 HQ Cuts - Round	6	17	2700
4 HQ Cuts	197	524	2663
5 HQ Cuts	2498	5539	2217
6 HQ Cuts Veal	92	197	2149
7 HQ Cuts	387	814	2105
Striploin trimmed	383	792	2070
Veal HQ Cuts	12	24	2000
Round with Shank	23	46	1980
Striploin untrimmed	335	653	1948
3 HQ Cuts	167	313	1876
Eye Round	120	222	1853
6 HQ Cuts	213	380	1785
Topside trimmed	321	567	1767
7 HQ Cuts - Steer or Heifer	612	1068	1746
3 HQ Cuts	74	127	1711
Flank Steak	62	105	1703
7 HQ Cuts	50	85	1700
Flank Steak	49	83	1697
7 HQ Cuts - Heifer	46	78	1682
6 HQ Cuts	350	584	1666
4 HQ Cuts	59	97	1643
Manufacturing	875	1430	1634
5 HQ Cuts	1773	2887	1629
Bavette	72	116	1600
4 HQ Cuts	163	260	1598
Silverside	1079	1711	1585
Topside	1538	2422	1575
Thick Flank	2282	3593	1574
7 HQ Cuts	36	57	1568
3 HQ Cuts	115	178	1551
Eye of Rump	74	112	1509
Compensated Quarters	50	75	1485
Rump untrimmed	575	849	1477
Rump trimmed	20	27	1355
Rump Skirt	436	564	1292
Outside	282	360	1275
Topside Cover	101	115	1141
Rump cover	174	186	1073
Shank	1033	942	912
HQ Cuts - Cow	10	8	837
Shank	1381	1149	832
Frozen Boneless Hindquarter	18992	32206	1696

Source - INAC

Ten different specifications of fillet excluding the striploin and fillet were exported during the first six months with a total weight of 262 tonnes and an average value of $US4276/tonne. It is recommended that if fillet is required for any of the new frozen prepared meals it should be costed into the product at $US4300.

383 tonnes of trimmed striploin and a further 335 tonnes of striploin before trimming were exported during the first six months. The average price of the trimmed striploin was $US2070 and it recommended that if this product is used in the prepared meals it should be costed into the product at $US2100.

321 tonnes of trimmed topside and a further 1538 tonnes of untrimmed topside were exported during the first six months of 1986. The price for the trimmed topside was $US1767 and it is therefore recommended that the price for trimmed topside should be $US1800 if required in prepared meals.

1079 tonnes of silverside were exported at an average value of $US1585. If silverside is required in the prepared meals it should be costed at $US1600.

2282 tonnes of thick flank were exported at an average value of $US1574. It is recommended that this should be costed into the product at the same price as the silverside, $US1600.

The average price of the 575 tonnes of rump was $US1477. However the use of rump for prepared meals will result in more waste than the other cuts and it is recommended that it is therefore costed in at a similar price to thick flank and silverside.

5.9.5 Boneless Forequarter

It has been shown in Table 5.9.3 that the average value of boneless forequarter in 1985 was $US1263. It is recommended that this is costed into any prepared meals at $US1300/tonne.

5.9.6 Recommended Meat Costs for Development of Prepared Meals

In developing a cost structure for prepared meals it is essential that the manufacturer in Uruguay can compete with all other customers for Uruguayan meat at all times. The costs used therefore in this report are based on the FOB Prices for shipped meat from Uruguay in the first six months of 1986. It has been shown in paragraphs 5.9.4 and 5.9.5 that considerable quantities of the main cuts are exported frozen and the prices used in the costing are the average price for frozen trimmed meats rounded up to the nearest $US100. Table 5.9.6 shows the recommended meat costs for prepared meals based on the above analysis.

TABLE 5.9.6 RECOMMENDED BONELESS MEAT COSTS FOR DEVELOPMENT OF PREPARED MEALS

	$US/tonne
Fillet	4300
Striploin	2100
Topside	1800
Silverside	1600
Thick Flank	1600
Rump	1600
Forequarter	1300

It has also been shown in this chapter that prices of Urugayan meat are tending to fall at the rate of approximately 6% per annum so that the prices given in Table 5.9.6 should adequately cover inflation.

The price of FOB meat will cover not only the raw material cost of the meat but also slaughtering and boning costs including trimming, refrigeration quality control, packaging and storage from boning to processing. If the slaughterhouses are making a profit this element will also be included in the cost of the FOB meat. If the slaughterhouses are not making a profit the costs used in Table 5.9.6 will provide a similar contribution to overheads as the meat at present being processed for export. In that the processing plant manufacturing prepared meals will also provide employment and a contribution to overheads the total contribution to the Uruguayan meat industry will be improved by the utilisation of meat at these prices.

6.0 OTHER PROCESSED FOOD MANUFACTURE IN URUGUAY

Uruguay is still basically an agricultural economy and even in Montevideo where nearly 50% of the population are centred, a considerable quantity of food is still purchased fresh from markets. The processing food industry is therefore not highly developed but there has been a movement in the past ten years to develop the fishing industry and fish processing plants have been set up to service exports of fish and fish products.

The Consultant visited a privately owned fish company, Fripur, which has now expanded to include the manufacture of processed foods including fish and vegetables. The following paragraph describes this company and illustrates the advantages and disadvantages which a meat processing company would encounter in establishing a processing operation within Uruguay.

6.1 FRIPUR

Fripur is a private company formed nine years ago by two brothers. The company controls five trawlers and purchases the fish from a further nine, fourteen in total. This fish constitutes approximately 40% of the fish exported from Uruguay and 25% of the fish purchased is manufactured into further processed products and sold throughout Europe, the US and Australia.

6.1.2 The Plant

The Fripur factory is being reconstructed inside an old cold storage area close to the docks. The plant is very modern inside and a high level of hygiene has been achieved.

Fish cleaning is totally mechanised but the new products are manufactured largely by hand until a suitable market has been developed. Most of the filleting equipment is from Germany, Baadar, and a Koppens breading, coating, frying and cooling line has been installed. A Giro freezer is available for individual free flow products including fish sausages and a batch of plate freezers in addition to a continuous freezer are used for prepared products.

6.1.3 Development

The company policy is to develop high quality, well presented products in the first place regardless of cost. When these have been developed they are shown to the trade either at large exhibitions including SIAL in Paris or ANUGA in Cologne. Major buyers are then invited to Uruguay to see production in the Fripur plant. Only when the product has been accepted in principle is price discussed. At this stage a price for both pilot production and the final automated manufacture is develcped in theory and if acceptable to the customer test runs are completed and used for test marketing. The initial test runs are mainly manufactured by hand.

In August 1986 Fripur were developing a range of fish products in "Japanese" crumb imported from the US and complete fish and vegatable meals on a microwaveable ovenable plate similiar to the Birds Eye Beef Platter (see paragraph 4.7.6 above).

Development is mainly by Fripur development staff although on occasions manufacturers provide their own recipes and formulations for Fripur to adapt to Uruguayan raw materials.

In addition to quality control, microbiological and analytical laboratories the company has a test kitchen with consumer sampling and conference facilities.

The technical team includes two industrial engineers, three agronomists and four veterinarians, food technologists, one of whom is in charge of Quality Control.

6.1.3.1 Diversificate - Vegetables

The company was developed to manufacture fish products but is now diversifying into vegetables. Vegetables are grown under contract with Fripur supplying seed, fertilizer, working capital, advice and machinery to the farmer. Following the Russian nuclear disaster Fripur were able to supply Langnese-Iglo in Germany with spinach within 45 days grown from seed. The aim is to develop a range of high value vegetable products which cannot be grown in quantity in Europe. These include asparagus, strawberries, broccoli and egg plant. Spinach, which is at present grown, is not of high enough value to be commercially viable. Other vegetables including carrots, beetroot, cabbage, etc are available for garnish but are not commercially viable for export to Europe.

6.1.4 Packaging

The packaging of most of the present products is in waxed cartons which are manufactured from board imported from Sweden and printed and cut by Fripur who have installed reconditioned plant. Artwork is originated either in Uruguay or by the client and the standard of printing including colour reproduction is very good.

In addition to selling complete meals in cartons ready for retail distribution Fripur also sell partially processed products which are repacked by third parties in Europe including Fastnet in the UK for Bejam.

The individual products are bulk packed in locally manufactured corrugated cardboard boxes and individually overwrapped in a high guage shrink polythene film.

6.1.5 Sales and Marketing

The marketing philosophy of Fripur is interesting in the context of this report. Fripur maintain contact with "sales offices" throughout Europe which sell the product and collect orders. These offices however do not arrange shipping which is organised by the Fripur offices in Montevideo. Fripur are only prepared to sell any one product to one customer in each market. This is mainly because their sales are with the major frozen food companies ie Langnese-Iglo in Germany. Fripur also supply the Fripur brand in a number of markets notably Sweden and Brazil. The UK sales of Fripur products to Bejam are through the Belgium Agent and some of the products are packed into consumer size packs by Fastnet within the UK. Fripur would be prepared to supply similar products to other own label brand owners but not to manufacturers of branded products.

Fripur only manufacture to order and in August 1986 had orders to complete production to May 1987. A shortage of raw materials was anticipated in January 1987 which had been discussed with clients who it was claimed were sympathetic to the problem. This may well be true for high quality fish products which are in short supply but is unlikely to apply to the very competitive prepared meat meals market.

6.1.7 Personnel Policy and Staff Welfare

Fripur claim to be able to pay their workers 40% above the going rate in Uruguay and still make significant profit. They stress the development and training of the workers is of vital importance with these high quality products. However at the time of the visit the factory was closed due to a strike during national pay negotiations. Several strikes, including the banks, were observed during a three week stay in Uruguay. Labour unrest would appear to be a feature of the economy and for this reason it is essential that stocks of raw materials, meat, other ingredients and packaging, are maintained in addition to finished goods both in Uruguay and the importing country.

The staff hygiene is impressive with well sited and constructed cloakrooms and an abundance of showers and toilets. The canteen is attractive and in good condition. Medical facilities are available and routine checks prior to employment and on a regular basis can be stipulated.

7.0 THE PACKAGING OF MEAT PRODUCTS

The method of packaging chosen for different meat products is dependent upon the method of distribution, in particular the type of refrigeration available and the characteristics of the product to be packed.

In this context the methods of distribution include:-

Ambient
Chilled
Frozen

7.1 AMBIENT DISTRIBUTION

The traditional method of packaging and preserving meat products particularly for ambient distribution and export from South America was canning but as shown in paragraph 4.5.2.2 above the consumption of both corned beef and other canned meats in the United Kingdom is static or declining. In addition to the declining market cans are an expensive raw material and production requires considerable capital investment. The high heat treatment involved in sterilisation makes the process only applicable for stew and fully cooked products for which in fact cow beef is more suitable than the higher quality beef available in Uruguay.

In the last 15 years flexible aluminium pouches and thin gauge flat aluminium cans have been developed initially for fish in sauce but in the last few years vegetable and meat dishes which can be sterilised to provide complete meals have been launched.

The advantage of these products is that they are relatively shelf stable and could be exported at ambient temperatures. The thin film or plate employed in manufacture and the flat nature of the product permits less rigorous processing to obtain sterility than with the traditional round can. For this reason the resulting product is not as overcooked as in the traditional stewed steak products. The non-rigid nature of the container however makes it essential to use an over pressure in the retort and many of these products are processed in rotating vessels. The lack of rigidity and film used make it necessary to overwrap the pack for retail distribution in printed cardboard sleeves. A further disadvantage of these packs is the expense of importing fragile but semi rigid containers. For manufacturers of packagings and packaging equipment please see equipment list of Volume I of the report.

In the Shop Survey only four products were found as described in paragraph 4.8 above. These were all basically low meat content, stew type products selling at approximately £1.00 per portion, significantly cheaper than similar frozen complete meals.

These products have only been tested on the market for a few months and it will be some years before the technology has been proved to be acceptable to the consumer. Under these circumstances it is not recommended that this technique should be adopted in the first instance for products from Uruguay due to the difficulty of communication when it is essential that there is a

rapid feedback of consumer reactions.

However new plastic films are being developed which can be sterilised and have the advantage over the thin aluminium cans and foil that they can be cooked in microwave ovens. The equipment used for this packaging is competitive with that used for frozen distribution and is discussed in paragraph 7.3.2 below and this material can be imported in reels.

7.2 CHILLED DISTRIBUTION

At the present time a major growth area within the food market in the US and the EEC is complete chilled meals. The shelf life however of these products is normally limited to between two and five days from manufacture to consumption. Distribution is therefore almost entirely own label through controlled specialised chill distribution chains direct to the supermarkets.

This technology has become more acceptable during the past five years due to the increased efficiency of the cold chain including manufacturing facilities, bulk distribution vehicles, distribution depots and vehicles and retail cabinets. This very short distribution cycle even if extended by gas flushing to nine to ten days would prohibit the export of these products from Uruguay to any of the developed markets.

However it is important to understand the concept of these chilled meals, which are becoming increasingly popular due to the better presentation and the reduced processing required. This technique permits the meat texture to be retained in the same way as fresh products.

In addition chilled products are perceived by the consumer to be fresher and of higher quality than either frozen or canned. Consumers are prepared to pay a premium and the products tend to be positioned to appeal to the higher social classes.

There is however a major disadvantage to these products in that they are relatively fragile and difficult to transport from the shop to the consumers table. The short shelf life means that the products must be either purchased on the day of consumption or in any event not more than one day previously. They are not normally suitable for storage over the weekend. Fragility and short shelf life mitigate against distribution of these products other than in very large outlets or the newer type of convenience stores which are open throughout the evening where store turnover will support a range of products with acceptable levels of wastage.

If a UK manufacturer were to consider the development of high quality meat products they would be positioned within this sector of the market, taking advantage of the premium and freshness image and relying possibly on the consumer to freeze them when they arrive in the domestic situation. However this is not an ideal situation as the technology and particularly ingredients of chilled and frozen products are not identical. It would therefore appear to the Consultant that there is a niche for frozen rather than chilled high quality meat products which will provide consumers who are unable to shop on a daily basis with convenient ready to eat foods. It is unlikely that this niche will be exploited by UK manufacturers as the cost

of the high quality meat cuts required would make the final retail price prohibitively high particularly in comparison with similar poultry products.

7.3 FROZEN DISTRIBUTION

The majority of frozen products are packed in either highly decorated waxed board cartons with or without an internal packaging or in the case of free flow products including vegetables, fish or meat in large polythene bags.

Some of the original convenience meals were packed in sealed films and were suitable for preparation by immersing in boiling water. The sachets were also provided with a hole in the corner into which a fork could be hooked to facilitate removal from the boiling water. This simple packaging limited the development of frozen products to those which could be either packed loose in the box or in a sauce within a polythene sachet.

Within the past three years and more particularly in 1986 there have been major advances in the technology available for packing frozen and chilled foods as described in paragraph 4.7.6.5 above. This development has occurred at the same time as changes in working habits and the domestic equipment available to consumers.

7.3.1 Consumer Attitudes to Packaging of Frozen Convenience Meals

7.3.1.1 Domestic Freezers

In the period up to 1985 a major factor in the growth of the frozen food and in particular the frozen convenience food market was the increased ownership of home freezers as demonstrated in Table 7.3.1.1.

TABLE 7.3.1.1 OWNERSHIP OF FREEZERS

	Households %	Frozen Food Consumption %
1980	50	66
1981	54	71
1982	59	75
1983	65	80
1984	69	84
1985	71	87

Source: Birds Eye Walls

7.3.1.2 Microwave Ovens

As indicated in paragraph 4.6.2 above ownership of microwave ovens increased by 50% between 1985 and 1986. With this growth data on microwave owners soon becomes outdated. A 1985 survey showed that microwave owners differed from all other housewives in a number of respects as illustrated in Table 7.3.1.2.1 below.

TABLE 7.3.1.2.1 MICROWAVE OVEN OWNERSHIP

	Microwave Owners %	All Housewives %
Working Status		
Not Working	48	66
Working	52	34
Children		
With Children	46	32
No Children	54	68
Age		
16-24	8	9
25-34	22	18
35-44	31	19
45-54	20	13
55-64	10	14
65+	8	26
Social Class		
AB	22	16
C1	26	22
C2	34	27
DE	17	36

Source: MAS Consumer Durables Monitor Dec 1985

Owners of microwave ovens tended to be working housewives with children in the middle age group from 25 to 54. As would be expected very few microwaves are owned by the poorer households but ownership does extend into C2s with skilled workers predominant.

In a 1985 survey of microwave owners 43% use their microwave because it cooked faster and another 23% because it allowed them to cook without planning ahead. As shown in Table 7.1.3.2.2 below in a sample of 240 households with microwaves approximately 75% of the appliances were also used by the husband and 50% by the children up to age 18. The reasons for using the microwave in preference to other cooking methods is also shown in Table 7.3.1.2.2.

TABLE 7.3.1.2.2 WAYS IN WHICH MICROWAVE OVENS ARE REGULARLY USED

	Housewife	Husband	Children
Total Sample	204	144	109
	%	%	%
Reheating Food	73	71	77
Defrosting	57	35	27
Boiling Liquids	52	57	62
Cooking from scratch	50	26	29
Reheating brought ready prepared food	37	40	41
In combination with other cooking methods	27	10	9
Cooking brought ready prepared food	21	23	22

Source: Birds Eye Walls

7.3.1.3 The Effect of Unemployment

The high unemployment at present endemic in the UK economy is almost entirely male and the number of people in employment is also at record levels. The change from a manufacturing to a service economy has led to the employment of large numbers of women on a part time or full time basis and th working housewives spend their additional income on domestic appliances.

Of particular importance in the context of this report is the use of the microwave oven for reheating and cooking ready prepared foods not only by the housewife but also by the husband and older children. When the housewife is working and other working members of the household return at different times it is essential that high quality ready prepared foods are available. As discussed above while chilled foods will supply this requirement it does require planning and for this reason it is believed there is a niche for high quality frozen foods but they must be suitable for cooking in the microwave.

7.3.1.4 Household Size and Composition

During the past 30 years the number of households in the UK has grown from 17m to 20m with a virtually static population. In 1983 60% of the households were adults only and almost 30% of the population lived in households composed of one or two adults.

7.3.1.5 Other Attributes required by the Consumer

Other desirable consumer attributes in the packaging of convenience meals include:-

Easy to open without the use of an additional utensil

Can be served direct from the package on disposable plates so eliminating washing up of cooking and serving utensils

7.3.2 Packaging of Frozen Foods

Until recently the only packaging material available in which frozen foods could be placed directly in the oven were aluminium foil dishes of various depths. These are unsuitable for microwave cooking and are therefore not recommended in 1987.

7.3.2.1 Future Developments

It can be seen by comparing paragraphs 4.7.6.4 Cooking Instructions for Prepared Meals and 4.7.6.5 Packaging of Prepared Meals, that at the present time while microwave cooking is recommended for most products a number of products are packed in aluminium trays and have to be placed on other utensils prior to cooking or reheating in a microwave oven. Products include all the Roast Beef in Gravy other than the Birds Eye two pack and Sainsburys Lasagne and Canneloni. The use therefore of plastic containers with peelable lids suitable for either microwave or conventional cooking for the new products developed for sale from Uruguay would be a significant consumer plus.

A series of new plastics have been developed both in the US and Europe which do not deform during sterilization in the factory and cooking in a conventional or microwave oven.

These plastics will eventually be suitable for producing sterile shelf stable products similar to cans but which can be used in the same way as frozen products in the household. From the point of view of production in Uruguay they have a number of advantages, namely:-

The product can be imported in reels and formed into trays on the production line thus saving expensive freight

Similar equipment to that required for frozen food production can be utilised with change parts if the supplier is informed prior to installation

The product can be exported at ambient temperatures so reducing the cost of containerised frozen sea freight.

The major continuing disadvantage will be that the product will require more processing than frozen foods to obtain sterility with the normal deterioration of the texture.

At the present time the technology of these products has not been adequately tested in Europe and no products are as yet available on the market.

It is important however in the context of this report that these developments are understood and allowed for in designing new plant and equipment as a change to this technology may have considerable commercial advantages in the foreseeable future.

7.3.2.1.1 Film suitable for Sterilisation

Combitherm HXX is produced by Wolff Walsrode. For manufacturer's address please see equipment list of Volume I of the report. This film is rigid and keeps its shape, can be thermo-formed, pasteurised or sterilised at temperatures up to 121deg.C in a counter pressure autoclave and is impermeable to water vapour, gases and aroma.

Walopeel PAXX is a peelable lidding film suitable for thermo-formed trays made of Combitherm HXX.

Combitherm HPAXX is a transparent lidding film for gas-tight packs with the sealing layer suitable for thermo-formed trays made of Combitherm HXX and pasteurisable and sterilisable at 121deg.C. This film however is not peelable.

7.3.2.1.2 Packaging Line for Frozen and Sterile Thermoformed Film

Wolff Walsrode are working with Kramer and Grebe, the manufacturers of "Tiromat", a thermoforming packaging machine to develop equipment for forming trays with this film.

The Uruguayan agents for Kramer and Grebe and therefore potentially for Tiromat are Keko International.

In addition to Tiromat who are working with Walsrode and with ICI in the UK to develop thermoforming films which can be sterilised Multivac and Dixie-Union manufacture thermoforming packaging machines which are suitable for frozen foods.

7.3.2.2 Test Marketing

In the short term, and particularly during pilot plant development and test marketing, it may not be advisable to invest in a thermoforming line. During this period it will be possible to import ready-formed trays on to which peelable transparent plastics can be sealed to provide a similar presentation to the Tiromat and Multivac machines discussed above at a far lower capital cost. The disadvantage of this technique in the long term would be the high cost of importing made up plastic trays in contrast to reels. This method of production has been adopted in preparing the products for concept testing and will be described in the technical report.

7.3.2.3 Reusable and Disposable Microwavable Plates

An approach which has been adopted by UK manufacturers in 1986 involves the use of a relatively substantial plastic plate on which the product is presented. Two ranges of products are available, Birds Eye Menumaster Roast Beef Platter and McCain Menu Classics, as described in paragraph 4.7.6.5 above. An Irish manufacturer has also launched a range of these products, two of which contain beef (for address see equipment list of Volume I).

While this concept is undoubtedly attractive there are a number of major disadvantages in the Uruguayan context;-

The packaging cost compared to the weight of meat sold is high

Meat is usually a minor ingredient in a complete meal

Packaging would have to be imported into Uruguay

The final package is very bulky in relation to the meat sold and the freight costs would probably be prohibitively high.

For these reasons this packaging concept has not been considered in the products produced by the consultant technologist although Fripur are working on the concept with European importers for fish products.

7.3.2.4 Outer Protective Packaging

The outer protective packaging of the great majority of frozen meat products (see paragraphs 4.7.4.4 and 4.7.6.5 above) are printed, waxed board cartons which, in the case of the convenience meals range, are sealed in contrast to the grills and steaks which can be reopened. It is recommended that this form of packaging is adopted by a Uruguayan meat manufacturer and as discussed in paragraph 6.1.4 above Fripur have installed printing and cutting plant capable of manufacturing this packaging from imported board.

It is essential that the standard of photography and printing of the waxed board carton is of the highest standard even for the market test. The consumer purchases new products to a very large extent on impulse and the only method of communication is the outer package.

7.4 PACKAGING SUPPLIERS

Table 7.4 indicates the packaging suppliers with their UK and Uruguayan agents where available.

Name	**Kramer and Grebe (Tiromat)**		
Address	Maschinenfabrik 3560 Biedenkopf-Wallau West Germany	Telephone	06461 8010
		Telex	482212
		Fax	801100

Name	**Reko International (Tiromat)**		
Address	Reiner Kossman Rincon 468 P150 8 Montevideo Uruguay	Telephone	953252 or 951904
		Telex	REKO UY 6494

Name	**Tiromat Packaging Systems Limited**		
Address	Unit 8	Telephone	01 443 3494
	The Great Cambridge Industrial Estate		
	Lincoln Road	Telex	268546 TIROPS G
	Enfield		
	Middlesex UK		

Name	**Francisco Goldfinger (Multivac)**		
Address	A.V. Libertador Brig Gal	Telephone	900741 or 981517
	Lavallesa 1614		
	P150 2 ESC 203		
	Montivideo	Telex	6547
	Uruguay		

Name	**Multivac UK Limited**		
Address	Unit 20	Telephone	0793 616416
	Orbit Centre		
	Ashworth Road	Telex	444950
	Bridgemead		
	Swindon SN5 7YG		

Name	**Alcan Ohler GmbH (Aluminium Cans)**		
Address	D-5970	Telephone	02391 61440
	Plettenberg-Ohle		
	West Germany	Telex	8201 726

Name	**Wolf Walsrode AG (Thermoforming materials)**		
Address	PO Box	Telephone	051 61 442864
	D-3030 Walsrode 1		
	Federal Republic of Germany	Telex	924324-90

Name	**Dixie-Metal Box**		
Address	34 Tanners Drive	Telephone	0906 614567
	Brakelands		
	Milton Keynes	Telex	825786
	MK14 5BW		

Name	**BXL**		
Address	Greenfield Road	Telephone	01 773 2435
	69/73 Manor Road		
	Wallington	Telex	946560
	Surrey		
	SM6 0BP	Fax	01 581 6200

Name	**Lamipac**		
Address	Metalbox PLC	Telephone	0734 581177
	Food Packaging Division		
	Queens House	Telex	846445
	Forbury Road		
	Reading	Fax	0734 587078
	Berks RG1 3JH		

8.0 THE MARKETING OF FROZEN MEAT PRODUCTS

8.1 BRAND MARKETING AND COMMODITY TRADING

The success or failure of this project if suitable products at the right price can be produced will entirely depend upon the ability of the Uruguayan exporters to adapt from commodity trading to brand marketing and for this reason the first section of this chapter will describe the present characteristics of commodity trading in meat from Uruguay and contrast them with the requirements of a branded product which is to be sold through retail outlets.

8.1.1 Commodity Trading

The main characteristic of commodity trading is that the price can fluctuate to balance supply and demand and to make up for defects of service and quality.

8.1.1.1 Supply

As has been shown in chapter 5 above the supply of meat from Uruguay varies from year to year and is exceptionally seasonal. In the past, exports from Uruguay to the EEC have been concentrated in the first half of the year and have been available when home supplies in the northern hemisphere have been relatively short.

8.1.1.2 Demand

Traders in commodities are opportunist and will offer meat on a number of markets to obtain the best price. Uruguayan meat has been exported to well over 50 countries often in relatively small parcels depending upon supply and demand.

Importers of commodity products including meat are equally opportunistic and will search world markets for parcels of product to meet varying quality specifications. Under these circumstances the exporter and the importer have limited loyalty one to the other and changes of supply may be made for short term profit.

This situation is even more exaggerated in government trading which is based on annual tenders in which there is absolutely no guarantee of renewal.

8.1.1.3 Quality

Another characteristic of meat trading is the attitude towards quality. Uruguayan quality control standards are high and the quality assurance inspection practised at the port ensures that substandard products are not exported. However if substandard products are identified at the port under the present system the consignment to the importer will be reduced and not

meet the full order. With commodity trading this shortfall in supply may well be acceptable as the importer will be able to substitute meat purchased from other sources.

8.1.1.4 Price Adjustment

If, during commodity trading, the exporter fails to supply the right product either in terms of quality, quantity or service, particularly timing, the price can be negotiated downwards to cover the losses incurred by the importer. It is however very rarely that the product is entirely refused and returned.

8.1.1.5 Distribution Chain

With commodity trading of meat the total distribution chain can be relatively long and complex including all or some of the following functions.

Slaughterhouse Operator
Uruguayan Exporter
Third Country Importer
Meat Wholesaler
Meat Products Manufacturer
Meat Products Wholesaler
Meat Products Retailer

In addition to the above the meat may be processed by a number of companies including boning and packing in different plants in Uruguay and/or the third country.

8.1.2 Brand Marketing

In contrast to commodity trading brand marketing demands a close and ongoing relationship between the manufacturer of the branded product and the retailer.

8.1.2.1 Supply

It is essential that a branded product is always available on the retail shelf when the consumer wishes to purchase it. To ensure this situation the owners of UK supermarkets operate a system of fines so that if suppliers' vehicles are late even by as little as 30 minutes in delivery there is a fine to cover the loss of profit suffered by the retailer when his shelves are not fully stocked.

8.1.2.2 Price

The supermarket operator also requires price stability over a long period. Price changes in themselves are expensive and all or some of the following

costs may be incurred;-

Notification of all retail outlets (some multiples have over 1000 shops)

Price updating of all existing stock

Reprogramming of all tills where bar coding is in operation

It has been estimated that in many cases it requires a minimum period of six weeks to effect a price change in a supermarket. It is for these reasons that the great majority of frozen foods are sold on a fixed weight and price basis and variable weight, while appearing advantageous to the manufacturer, will not be tolerated by the supermarket operator.

8.1.2.3 Quality

Quality control of prepacked products by the retailer is dependent upon a sampling system and if the incoming product fails to meets the required standard it is impossible for the retailer to sort the product and accept a price reduction so that the whole consignment must be rejected. While there are outlets for reject branded products these are only at scrap values.

In addition to the physical quality of the product the importer of cooked meat products will required to be assured that the hygiene and medical inspections within the plant are of a high standard. When purchasing from home country manufacturers the buyer would insist upon frequent, unannounced checks by his own technical staff. The cost of this type of inspection for what must of necessity be a limited range of products from the Uruguay could well be prohibitive.

8.1.2.4 Marketing Activities

The success or failure of the branded products will depend upon the promotional activity which supports the brand particularly during the launch period. This may include all or some of the following elements:-

Media advertising - Television, Radio, Press

Promotional activity - Mail Shots, Couponing and In store advertising

In-store demonstrations

Price reductions

The successful operation of this type of advertising and promotional support requires a close co-operation between the marketing and sales department of the manufacturing company and the retail buyer.

8.2 ALTERNATIVE METHODS OF MARKETING A BRANDED FROZEN PRODUCT

The market for frozen meals, as demonstrated in paragraph 4.6.4.2, can be

divided into three sectors:-

Major Brands - Birds Eye, Ross, Findus
Other Brands - 24%
Own Label - 20%

Products from Uruguay could be marketed through any of these sectors of the market and there are advantages and disadvantages in each method.

8.2.1 Major Brands

At the present time none of the major brands, Birds Eye, Ross and Findus, have a range of high quality meat products. However they do sell high quality sophisticated fish products at a relatively high price. Contract packing for one of these major brands in Uruguay would be a very attractive method of entering the European market as both Birds Eye as part of Unilever and Findus as part of Nestle are involved in the European market.

The brands have distribution in most of the supermarket chains and freezer centres. Advertising and promotional expenditure, particularly by Birds Eye, is very considerable and consumers recognise the brands as providing consistant quality and good value for money.

Co-operation between Uruguayan manufacturers of meat, fish and vegetable products, both individually and as complete meals, would be attractive to these major brands as the costs of communications and in particular technical inspections could be spread over a larger volume.

When the major manufacturers are listed by retailers they are assured of adequate space in the freezers and stock control and order taking will be the responsibility of the manufacturers' own merchandiser or representative ensuring that out of stock situations do not occur.

8.2.2 Other Brands

Other brands which have 24% of the frozen meals market include major manufactures of frozen foods who have only a small presence in this sector of the market and small specialist manufactures. Products from Uruguay could either be marketed by established brands or launched as a new brand.

8.2.2.1 Established Brands

In the past few years there has been a considerable number of other brands entering the frozen food market. Some of these are large in particular sectors, for instance, McCains who launched and expanded in the potato market, followed by pizzas and are now entering the ready meals sector.

Likewise Freshbake have been predominant in the pastry market for a number of years but their associated companies now cover most products as demonstrated in Attachment 13 but as yet no high quality ready meals are being offered.

Hillsdown Holdings, the most rapidly expanding British food business, have a considerable presence in the freezer both with vegetables under Smedleys brand and Buxted Poultry. Their involvement with ready meals has to date been with Lockwoods with sterile products and it could be that they wish to expand into the frozen ready meal market.

Bernard Matthews are brand leaders in turkey products and expanded into beef and lamb joints about three years ago, importing lamb from New Zealand. More recently they have launched a range of sterile prepared meals (paragraph 4.8).

In addition to these four major companies with a relatively small presence in the ready meal market there are a large number of other manufacturers supplying specialist niches within the market.

At this stage the advantages to the Uruguayan meat industry in contract packing for a major frozen food supplier not already within the ready meals market would not be as great as for the major suppliers in that the advertising expenditure is smaller and therefore the consumer would not have the same confidence in the product as presented. However McCains, Hillsdown and Freshbake have large national sales and marketing organisations and sophisticated distribution networks.

8.2.2.2 New Brands

If Uruguayan meat manufacturers are unable to arrange contract packing of high quality meat products for an established brand then they could consider launching a new independent brand. However this will involve a higher level of investment and consequent risk.

The establishment of an independent Uruguayan brand in Europe would involve either distribution through an established agent or alternatively setting up a marketing and sales operation within the EEC. It is recommended as will be discussed in chapter 9 that marketing or export offices are established in Europe to handle these products but the staffing required will be dependent on the method of distribution chosen. An independent brand would require a national sales force involving a considerable investment before the product could be adequately tested in the shops. In addition to the investment in sales and marketing an independent brand would not have the advantage of any established advertising and the delay therefore in obtaining distribution both in retail outlets and consumer sampling would be considerable.

Muirson International Limited, an integral part of the Freshbake Foods Group (see equ.1.|Vol.I) are importers of a number of Dutch products including chips, vegetables and poultry products which would be complimentary rather than competitive with range of Uruguayan meat products.

8.2.3 Retailers' Own Brands

50% of frozen food is sold through eight multiple grocers with a further

13% through two freezer chains. As demonstrated in paragraph 4.6.5, 35% of the frozen food market is controlled by Sainsbury, Tesco and Bejam.

The stocking policy with regard to retailer own brands varies considerably between the different retail groups as summarised below.

8.2.3.1 Sainsbury

Sainsburys are heavily dependent upon retailer own brands which are manufactured to their specification. They employ a large technical department to assist their buyers responsible for initial inspection of the plant, quality control and quality assurance throughout the life of the product. The store spends very significantly on advertising retailer own brands and has a good reputation for quality, hygiene and value for money with the consumer.

8.2.3.2 Tesco

Tesco are at present in the process of reorganising their marketing approach and are increasing their reliance on high quality retailer own brand products. As noted in paragraph 4.7.6.1, no own label prepared beef meals were found in the Shop Survey. This outlet must be the best opportunity for Uruguayan contract packing for retailer own labels but unfortunately it proved impossible to obtain an interview with the Marketing Director responsible for this sector of the market during the period of reorganisation.

8.2.3.3 Dee Corporation

The Dee Corporation has expanded rapidly in the last five years, absorbing Gateway, Frank Dee, International Stores, Key Markets, Lennons and most recently Fine Fare which was purchased from ABF.

The Group have declared a policy of relying on branded products with the minimal possible reliance upon retailer own brands. They also have a policy of purchasing on an opportunistic basis in parcels and would not be suitable for developing an on-going relationship of a branded product with the communication difficulties inherent in supply from Uruguay.

8.2.3.4 Asda

Asda are a major northern-based retail group who are rapidly expanding into a national company. They probably have more superstores than any other group. They are expanding their retailer own label range and aim to have 3000 products by the end of 1988. However initial discussions with their buyers were not encouraging as they felt that the expense of technical inspection could not be justified in Uruguay and suggested that the Uruguayan product should be handled by a third party agent within the UK.

8.2.3.5 Argyll

The Argyll Group which controls Presto superstores and supermarkets, Lo-Cost Discount stores and Cordon Bleu freezer centres, has recently purchased Safeway from the United States owners. The company has a policy of branded and own label products and would be another opportunity for Uruguayan meat manufacturers. However they also have a policy of not discussing any projects with consultants and therefore this avenue has not been explored.

8.2.3.6 Kwik Save

Kwik Save are a limited range discount house which would not be suitable for the type of product envisaged in this project.

8.2.3.7 Other Multiples

Waitrose, controlled by the John Lewis partnership, Hillards and Morrisons, two northern multiple chains, all sell high quality own label products but it is doubtful whether the volume involved would be viable for individual contracts with Uruguayan meat manufacturers.

8.2.3.8 Bejam

Bejam are the largest specialist frozen food retailer with 11.7% of the market. They are at present buying a number of fish products from Uruguay for final pre-packing in the UK and are negotiating with Fripur for the manufacture of sophisticated own label products. The Technical Development Manager is well disposed towards importing from Uruguay and this must constitute another excellent opportunity. They have a considerable press advertising budget in which they major on their sophisticated range of ready prepared meals.

Table 8.2 lists all the contact addresses mentioned within this chapter.

TABLE 8.2 BRAND MARKETING CONTACT ADDRESSES

BRANDS

Name	**Birds Eye Walls Limited**		
Address	Station Avenue Walton on Thames Surrey KT12 1NT	Telephone	0932 228888
		Telex	261255
		Fax	0932 228888 Ex3152

Name	**Findus Limited**		
Address	PO Box 2	Telephone	01 686 3333
	St George's House		
	Park Lane	Telex	23117
	Croydon		
	Surrey SR9 19R	Fax	01 686 6072
Name	**Freshbake Foods Group PLC**		
Address	Crayfield House	Telephone	0689 75251
	Main Road		
	St Paul's Cray	Telex	267429
	Orpington		
	Kent BR6 0DY	Fax	0689 73607
Name	**Muirsons International Limited**		
Address	Imperial Buildings	Telephone	0293 786767
	Victoria Road		
	Horley	Telex	878324 Active G
	Surrey		
	RH6 7PZ	Fax	0293 786609
Name	**Hillsdown Holdings PLC**		
Address	Hillsdown House	Telephone	01 794 08
	32 Hampstead High Street		
	London	Telex	297229
	NW3 1QD		
		Fax	01 435 1355
Name	**McCains Foods (GB) Limited**		
Address	Haversbill	Telephone	0723 584141
	Scarborough		
	N Yorkshire	Telex	52565
	YO11 3BS		
		Fax	0723 581230
Name	**Ross Foods Limited**		
Address	Ross House	Telephone	0472 59111
	Wyckham Road		
	Grimsby	Telex	52182
	South Humberside		
	DN31 3SW	Fax	0472 59111

RETAILERS

Name **Argyll Foods PLC**
Address Argyll House
Millington Road
Hayes
Middlesex
UB3 4AY
Telephone 01 848 8744
Telex 934888

Name **Cordon Bleu Freezer Food Centres Limited**
Address St Christopher House
217 Wellington Road South
Stockport
Cheshire
Telephone 061 480 4919
Telex

Name **Lo-Cost Stores Limited**
Address Glendale Avenue
Sandycroft Industrial Estate
Queensferry
Deeside
Clwyd, CH5 2DL
Telephone 0244 532268

Name **Mojo Limited/Snowking Frozen Foods Limited**
Address PO Box 30
Valley Road
Birkenhead
Merseyside
L41 7EN
Telephone 051 652 6755

Name **Asda Stores**
Address Head Office
Asda House
Britannia Road
Morley
Leeds LS27 0BT
Telephone 0532 539141
Telex 55315

Name **Bejam Freezer Food Centres Limited**
Address 1 Garland Road
Honeypot Lane
Stanmore
Middlesex
HA7 1LE
Telephone 01 952 8311
Telex 21776

Name	**Dee Corporation PLC (Gateway Foodmarkets Limited)**		
Address	Cater Road	Telephone	0272 785555
	Bishopsworth		
	Bristol	Telex	44313
	BS99 7TZ		

Name	**Hillards Supermarkets Limited**		
Address	Spen Lane	Telephone	0274 874311
	Gomersal		
	Cleckheaton	Telex	517446
	West Yorkshire		
	BD19 4PW		

Name	**Kwik Save Group PLC**		
Address	Warren Drive	Telephone	07456 87111
	Prestatyn		
	Clwyd	Telex	61669
	LL19 7HU		

Name	**Marks & Spencer PLC**		
Address	Michael House	Telephone	01 935 4422
	Baker Street		
	London	Telex	267141
	W1A 1DN		

Name	**Morrison Wm Supermarkets PLC**		
Address	Hilmore House	Telephone	0274 494166
	Thornton Road		
	Bradford	Telex	517530 MORRHQ
	BD8 9AX		
		Fax	0274 494831

Name	**Sainsbury J PLC**		
Address	Stamford House	Telephone	01 921 6000
	Stamford Street		
	London	Telex	264241
	SE1 9LL		

Name	**Tesco PLC (Tesco Stores Limited)**		
Address	Tesco House	Telephone	0992 32222
	PO Box 18		
	Delamare Road	Telex	24138
	Cheshunt		
	Hertfordshire EN8 9SL		

Name	**Waitrose Limited (John Lewis Partnership)**		
Address	Doncastle Road Southern Industrial Area Bracknell Berkshire RG12 4YA	Telephone	0344 424680
		Telex	0344 424680

9.0 THE MARKETING CHAIN

This chapter describes all the stages of procurement, production and distribution which will be involved in marketing a high quality frozen meat product manufactured in Uruguay. The infrastructure for many of these stages including production, slaughter, primary processing, shipping, distribution and retailing is available and can be utilised by the management of the new company. This chapter therefore seeks to identify the areas of investment necessary to complete the marketing chain and suggest the best methods for establishing a new organisation.

9.1 RAW MATERIAL PROCUREMENT

The raw materials involved in the production of frozen complete meals other than capital equipment fall into three main categories:-

Meat
Other Food Ingredients
Packaging

The detailed specification of all these items will be included in the technical report and this section of the marketing report deals with the logistics and additional costs over and above those involved in the prime cost of the raw materials.

9.1.1 Meat

It has been shown in chapter 5 that there is an adequate supply of high quality, hind quarter cuts available for the manufacture of meat products which will have been slaughtered in EEC plants. Table 5.9.4.4 indicates the actual FOB prices of 53 different hindquarter cuts exported during the first half year of 1986 and paragraph 5.9.6 summarises these costs to provide the detailed cost structure with which the concept products have been costed.

During discussions in Uruguay it became apparent that the initial concept was to build the meat processing plant as a downstream operation to one or more of the present slaughtering facilities. The consultants would advise against this integration of operations for the reasons discussed in the following paragraphs.

9.1.1.1 Fluctuations in Supply

The supply of meat from Uruguayan slaughterhouses, as demonstrated in chapter 5, will fluctuate both annually, with the majority of production in the first half of the year, and cyclically for example 1984 was a trough year. Marketing departments of slaughterhouses will have established relationships with individual importers and in times of shortage management will be under duress to supply these customers at the expense of the development of the meat products market.

9.1.1.2 Price Fluctuations

In times of shortage the price will rise (see Graph 9.1.1.4 below) and there will be a temptation to take an additional profit again at the expense of the meat products manufacture which must operate on a long term price forecast as described in paragraph 8.1.2.2 above.

9.1.1.3 Boning and Cold Store Facilities

The boning and particularly the cold storage facilities of the established slaughterhouses (paragraphs 5.5.2 and 5.5.3) is inadequate for the long term storage of boneless frozen meats against a constant manufacturing plan. Under these circumstances the slaughterhouses may not hold sufficient stocks to support the manufacturing unit throughout the year.

9.1.1.4 European and US Experience

Immediately following the Second World War most European meat products manufacturers were vertically integrated purchasing animals on the hoof, slaughtering, boning and manufacturing. This involved the manufacturers of meat products in the disposal of the whole animal at a profit. This complex accounting and technical requirement was usually referred to as the "beef or pig equation". An increase in demand for one particular cut, for instance hams at Christmas, could lead to distortion of the remaining sectors of the business. This frequently led to reformulation of the product range with a consequent variation in specification and standards.

In the late 1960s a new generation of meat businesses were developed divorced from the primary slaughtering and processing and using as raw material boneless frozen meat. These businesses, of which Birds Eye is a prime example, were able to purchase their meat requirements on the world market using a tight quality specification quality. Buyers built up an expertise in balancing supplies against demand and could purchase forward against seasonal price increases and shortages.

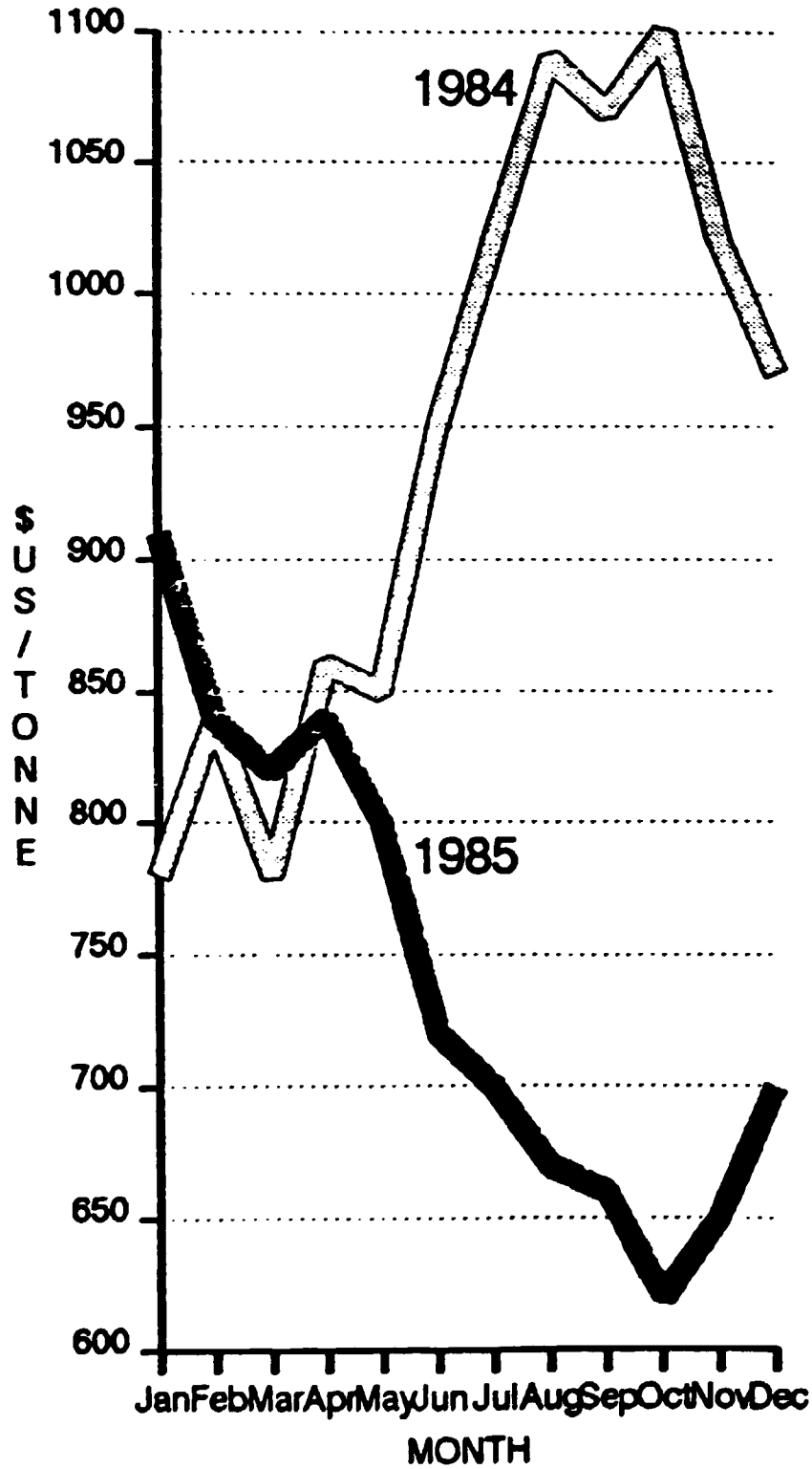
Graph 9.1.1.4 demonstrates the variation in buying price of steers (deadweight) by Uruguayan slaughterhouses during 1984 and 1985. The profitability of the meat plant will to a large extent be dependent on the skill of the meat buyer in forecasting price changes but this would be jeopardised if integrated with an existing meat plant.

9.1.2 Other Ingredients

The other ingredients required for the prepared meals will fall into three main categories:-

Vegetables and garnishes
Seasonings
Specialist ingredients to ensure stability of the sauces during processing, distribution and cooking in the home.

GRAPH 9.1.1.4 DEAD WEIGHT PRICE STEERS



9.1.2.1 Vegetables and Garnishes

Fripur, as discussed in paragraph 6.1.3.1 above, have developed contacts with farmers who are now growing specialist vegetables for frozen food production under contract to Fripur. It is recommended that the Uruguayan meat manufacturing company should emulate this development.

The vegetables specified in the Technical Report Chapter 5 are canned or frozen but fresh vegetables can be substituted if these become available and this could be a product plus.

The actual vegetables required for the products which have been prepared are discussed in the technical report.

9.1.2.2 Seasoning Mixtures

The seasoning mixtures for the manufacture of specialist sauces must be carefully controlled both in terms of weight, volume, flavour intensity and microbiological quality. In the case of small plants this can frequently be most easily accomplished by purchasing ready mixed and packaged seasonings suitable for individual batches. A number of specialist companies have grown up in the United Kingdom during the past few years and Table 9.1.2.2 details suitable seasoning houses and formulators.

The specification for the seasonings given in the Technical Report Chapter 5 defines the individual spices required but these could be provided to a formulator for individual packaging.

It is understood that seasonings imported for re-export are free of duty and the price to the plant will therefore be CIF+10% to allow for bank charges and port handling.

TABLE 9.1.2.2 SEASONING FORMULATORS

Name	Bush Boake Allen		
Address	Blackhorse Lane London	Telephone	01 531 4211
		Telex	897808
		Fax	01 531 7413
Name	**Griffiths Laboratories (UK) Limited**		
Address	Cotes Park Farm Somercotes	Telephone	077 383 2171
	Derby DE5 4NN	Telex	37456

Name	**T Lucas & Co Limited**		
Address	Ruskitt Mills Moranian Road	Telephone	0272 674681
	Kingswood Bristol	Telex	44789
	BS15 2NG	Fax	0272 222

Name	**RHM Ingredient Supplies Limited**		
Address	Torre Road Leeds	Telephone	0532 480040
	LS9 7RZ	Telex	557491
		Fax	0532 311

Name	**Contract Technology Limited**		
Address	1 Durley Lane Keynsham	Telephone	02 756 5009
	Bristol BS18 2AQ	Telex	445846

9.1.2.3 Special Ingredients

The sophisticated ingredients required to ensure stability of sauces during the manufacture, distribution and domestic preparation of frozen foods are detailed in the technical report. These products will be purchased in bulk and costed into the product at the CIF price+10% as above.

9.1.3 Packaging

Five types of packaging will be required for the three meat products which have been manufactured for the concept test:-

Internal packaging - sticks for the kebabs

Plastic trays and lids to hold the products

Printed, sealed, waxed board outer protection boxes for the individual products

Cardboard outers suitable for shipping and retail distribution

Shrink film for overwrapping either individual cardboard boxes or complete pallets.

9.1.3.1 Internal Packaging

The kebab product is packaged on a wooden stick the specification for which, with suggested suppliers, is included in the technical report.

9.1.3.2 Plastic Tray and Lid

As discussed in paragraph 7.3.2.1 above if this project is successful it is anticipated that in the long term trays will be thermoformed, filled, lidded and sealed on a Tiromat or Multivac integrated line. However initially, individual trays will probably be imported from Europe for hand sealing to permit market testing of the proposed range. Details of the individual specification and suppliers are included in the technical report.

This packaging will be imported for the export and as such will not be subject to customs duty. The price will therefore be CIF+10% to cover port and bank charges.

9.1.3.3 Printed Waxed Cardboard Boxes

As discussed in paragraph 6.1.4 above Fripur have purchased second hand plant with which they are printing and cutting a wide variety of high quality, waxed board cartons for their own use using board imported from Sweden. The boxes included in the technical report for packing the products for market test assume that they would be imported from the United Kingdom. However the Uruguayan investors would be well advised to investigate whether spare capacity is available on the Fripur plant or whether similar equipment could in the long term be purchased and operated as part of the new meat manufacturing plant.

Imported materials, whether plain board or finished boxes will be imported free of duty if required for export and the cost will therefore be CIF+10% for port and bank charges.

During the initial stages of development it is essential that the correct packaging is used for market test. However the lead times for packaging design including artwork, printing and makeup can run to several months. If the packaging is imported from Europe there will be a temptation to over order which could lead to considerable write offs if the product test is either unsuccessful or the packaging requires modification before national launch. For these reasons even if the initial costs appear high it is recommended that the meat company approach Fripur to produce the small quantities required for market testing.

Bulk packaging is manufactured in Uruguay and it should be possible to purchase suitable packaging almost off the shelf in the initial stages.

9.1.4 Summary of Facilities and Resources required in the New Plant for Procurement

The main facilities and resources required by the plant to ensure efficient procurement will be personnel, office and storage space.

9.1.4.1 Personnel

An experienced procurement officer capable of purchasing meat, other ingredients and packaging including print will be required from the commencement of the project. It would be an advantage if the person appointed has had previous food industry experience and is conversant with both the product requirements and supply sources. Full time clerical assistance will also be required as the office must be manned at all times and the procurement officer will, of necessity, be required to travel extensively in Uruguay, South America and Europe. The office must also be equipped with Telex and preferably Fax facilities.

9.1.4.2 Storage Facilities

9.1.4.2.1 Cold Storage

As discussed in paragraph 5.4 above, high quality meat cuts are only available from steer meat during six months of the year. It is essential that production is continuous throughout the year not only to spread the factory overhead but also to ensure a constant supply of freshly produced products for the distribution chain. For this reason the cold storage facilities, preferably at the meat plant, should equate to at least six months supply of boxed, boneless beef.

The cold store facilities will not be used to 100% capacity throughout the year and the full capacity will probably only be required for boxed, boneless beef during a relatively short period from May when final stocks are being built up to August/September when the stocks begin to fall. Careful planning of the incoming and outgoing cold stores should permit these to be used for both raw meat and finished goods. However EEC Licensing requirements demand that raw and cooked meat products are kept separate at all times. Before designing the final plant therefore the company should discuss with the relevant authorities the circulation of meat and meat products through the cold stores so that optimum utilisation of this expensive facility is obtained (Appendix 5) and Technical Report paragraphs 6.4 and 7.2.4.

9.1.4.2.2 Ingredients Storage

The ingredients store will be in two parts, chilled storage and cleaning facilities for fresh vegetables and dry storage for seasonings and bulk ingredients. The specification for these stores is included in the technical report.

To allow for delay in ordering and shipping, particularly specialist ingredients and seasonings the dry goods stores should be capable of holding a minimum of six months stock at any one time.

9.1.4.2.3 Packaging Stores

The location of the packaging stores within the meat plant is closely

controlled by the EEC Regulations (paragraph 5.6 Appendix 5). There is a general requirement that packaging materials are kept separate from meat and meat ingredients and outer packaging is only permitted in areas in which meat processing does not take place.

Temperature and the humidity of packaging stores can also be critical and discussions should be held with the suppliers of both the packaging materials and the packaging equipment prior to designing the packaging store.

9.2 PRODUCT MANUFACTURE

9.2.1 EEC Regulations

Details of product manufacture and factory facilities are included in the technical report. The specification to meet EEC Regulations has not yet been published but Appendix 5 is a copy of the proposal for a Council Directive on Public Health and Animal Health problems affecting importation of meat products from third countries.

The management costs shown under Factory Overheads in the Technical Report paragraph 4.5 assume that the factory has settled down to normal production. During however the first few years of production there will be additional project costs particularly with regard to procurement of equipment, initiation of new supplies and installation of plant and equipment. These are covered in Chapter 11 of this report.

In addition to meeting these regulations it may be necessary to provide specific facilities to satisfy the requirements of brand owners in the UK. In particular the brand owners will require assurance that all personnel are subjected to regular medical checks and that strict segregation of both personnel and materials are practiced in accordance with their specifications. In this respect therefore the EEC Regulations must be considered as a minimum standard and the meat company is advised to discuss with potential brand owners any additional hygiene facilities which they may demand.

9.2.2 Finished Goods Stock

Supermarket operators in Europe require an absolute security of supply of branded or retailers own branded products (paragraph 8.1.2.1). Failure to supply on time even a half an hour delay may attract a fine for loss of profits from the supermarket. Failure to supply in total will almost certainly lead to delisting of the product with little or no opportunity to enter that sector of the market on a second occasion. It is therefore essential that adequate stocks of finished products are always available as an insurance against all or some of the following occurrences:-

Shortage of raw materials, meat, ingredients or packaging.

Industrial unrest in either suppliers, meat companies, banks or shipping of the final goods

Increases in demand due to promotion

Irregularity of shipping or failure to find shipping space

It is impossible at this stage to accurately assess the stock cover required. However the consultant would suggest that it would be imprudent to operate with less than two months stock and that in the initial stages cold store facilities should be available to hold up to three months stock.

9.2.3 Quality Assurance

In determining the production plan and allocating space for finished goods storage allowance must also be made for quality assurance of the final product prior to export. As described in paragraph 5.7.4 above both INAC and LATU will be responsible for ensuring that the final product reaches the importers specification. The manufacturer is advised to discuss with these organisations the facilities they require for quality control both during production and prior to despatch.

In addition the importer may wish to employ an independent inspection company to carry out quality inspections on his behalf prior to export.

9.3 SHIPPING

9.3.1 Containers

Frozen finished products will be shipped in containers and there is a weekly frozen container service between Montevideo and Tilbury.

To obtain optimum utilisation of the shipping space products from Uruguay are normally shipped in protective cartons and pallets are not employed. This method of shipping may not however be suitable for branded or own label prepared meals as the importer may not be prepared to palletise the product prior to distribution.

The external dimensions of the container are given as 6m long x 2.4m wide x 2.4m high and cost in August 1986 DM6000 per container for shipment to Tilbury.

9.3.2 Shipping Agents

The responsibility for arranging shipping is usually that of the European agent or importer. While this situation is satisfactory if an importer is employed other arrangements may be required if the product is to be sold through an established brand or as a retailer own brand product.

Retailers are usually not prepared to be responsible for shipping, in which they have no expertise, so that third party importers are employed. Bejam use a Belgium agent who arranges all shipping and Customs and Excise clearance and initial warehousing.

Care must be exercised in choosing a European agent who must be skilled not only in shipping and Customs and Excise but also have good on going relationships with supermarket buyers tc ensure that the imported products can be profitably sold. The skills demanded of an importing agent for finished goods are very different from those of a meat trader importing chilled and frozen meat from a number of sources and not necessarily placing the consignment until after it has landed in the UK.

The agent will require very significant back up from the manufacturer not only in terms of ensuring that the product is always available at the right price at the right time but also in providing the following documentation and services:-

Quality control documentation

Promotional support including media advertising and point of sale material
Product specifications

Packaging specifications and samples

Public relations support including contacts with trade and consumer journals

Rapid communications with decision makers

It is difficult to believe that these facilities can be provided entirely from Uruguay and the consultant recommends that marketing offices are set up in Europe with facilities and personnel capable of providing the sophisticated marketing input required by this type of product (paragraph 9.4.3).

9.3.3 Stocks in EEC

The European agent can operate either on a commission basis paid either by the exporter or the importer or alternatively operate on their own behalf purchasing the product from the exporter in Uruguay and selling to the retailer in the UK.

In selecting an agent to handle frozen meat products the Uruguayan manufacturer must also determine who is to be responsible for the stockholding of products between shipping and distribution to the retail outlets. It will be necessary to hold stocks of finished product at a centralised warehouse to prevent stock shortages due to shipping delays or increases in demand from the retail outlets.

With own label products the retailers will be responsible for their own sales forecasts but if branded products are produced then it is essential that the retailers can be supplied at all times from stockholdings in Europe.

9.4 RETAIL DISTRIBUTION

9.4.1 Sales and Marketing

The majority of branded products sold through the retail market in the UK and Europe are sold to the retail buyer by the sales manager or representative of the manufacturing company. This is particularly important with the sales of perishable or frozen products which are normally transported direct from the manufacturers factory or cold store to a retail distribution depot frequently owned by the supermarket operators.

However as discussed in paragraph 8.2.2.2 above there are a number of specialist importers of frozen foods who will sell the imported brands to the retail buyers and arrange distribution. If this method of sales and distribution is chosen it is essential that there is significant marketing back up to the distributor by the Uruguayan meat manufacturer particularly in terms of frequent personal contact.

The consultants however would suggest that the Uruguayan meat manufacturer may succeed more rapidly and maintain a good relationship with retail buyers if a Uruguayan Marketing Office (paragraph 9.4.3) is opened in Europe responsible for all sales and marketing of the products from the meat factory.

9.4.2 Functions of a Sales and Marketing Office

9.4.2.1 Established Brand

If the factory is contract packing for an established brand the responsibilities of the marketing office would be relatively small and would consist of acting as a liaison between the brand owner or owners and the Uruguayan factory providing a point of contact particularly at times of the year when the Uruguayan office hours do not coincide with those in Europe. Under these circumstances the Uruguayan marketing manager would provide marketing and technical back up for the brand owners in his discussions with retail buyers but would not be responsible for sales volume.

In the event that contract packing was established for a number of retailer own brands then the marketing manager would be responsible for sales and technical input to the brand owners and would ultimately also be responsible to the Uruguayan meat factory for the sales volume in the UK.

9.4.2.2 Uruguayan Brand

If it proved impossible to contract pack either for a major brand owner or retailer own brands and it was decided to establish the Uruguayan brand in the UK then the functions of the marketing office would be considerably more extensive. It would almost certainly be necessary to employ not only a marketing manager responsible for sales, advertising and promotion but also a sales manager with sales representatives or key account managers responsible for selling the product to supermarket buyers and the wholesale trade.

In addition the marketing office would be responsible for physical distribution from the docks to the retail distribution depots. This would involve the establishment of a sales administration department responsible for day to day contact with the distributing company, sales invoices and credit control.

The foregoing discussions indicate the very significant advantages to the Uruguayan meat company in contract packing for established brands or retailer own label compared with the investment required to establish a sales and marketing operation for a new brand.

9.4.3 Staff for Sales and Marketing

The staff required to man the marketing department in Europe will be dependent upon the method of marketing adopted. However at the very minimum it will be necessary to employ an experienced sales and marketing manager with experience not only in selling fast moving consumer foods to the retail industry but also in preparing marketing plans and liaising with advertising, promotions and public relations organisations to ensure adequate exposure of the new products.

9.4.4 Establishment of Export Marketing Offices

At the present time all representation of Uruguayan exporters in Europe other than through third party agents is by the Commercial Secretary of the Embassies. While these may be suitable as bases when commodity trading there are two major disadvantages for brand marketing:-

The personnel are not experts in sales and marketing branded products and do not appreciate the urgency of negotiations and communications.

The premises are old fashioned and do not present the image which is essential when marketing new food products.

Within the EEC there has grown up during the past 20 years a considerable inter country trade in branded food products. Most of the exporting countries now maintain sophisticated marketing offices in each of the importing nations. These offices manned by experienced commercial sales and marketing personnel provide the following facilities for all exporting companies:-

Exhibition space frequently including a specialist food shop open to the public

Conference and meeting rooms in which visiting exporters can meet retail buyers, advertising agents and promotional experts.

Sophisticated communication centres capable of obtaining rapid answers from the exporting country

Market research and library facilities to act as information bureaux for exporting companies

Test kitchen to permit demonstration of food products.

Table 9.4.4 lists the London offices of the major national marketing organisation in the UK and it is suggested that a preliminary study of these agencies and the major UK marketing organisations including the Meat and Livestock Commission and the National Dairy Council should be undertaken prior to setting up a marketing operation in Europe.

TABLE 9.4.4 NATIONAL MARKETING ORGANISATIONS

Name	**Bacon and Meat Manufacturers' Association (BMMA)**		
Address	19 Cornwall Terrace London NW1 4QP	Telephone Telex	01 935 7980 262027
Name	**British Food Export Council (BFEC)**		
Address	525-529 Market Towers 1 Nine Elms Lane New Covent Garden Market London SW8 5NQ	Telephone Telex	01 622 0188 296295 BFEC G
Name	**British Frozen Food Federation (BFFF)**		
Address	Honeypot Lane Colsterworth Grantham Lincolnshire NG33 5LX	Telephone	0476 860914
Name	**Central Marketing Organisation of German Agriculture Industries (CMA)**		
Address	CMA UK Office 44-46 Knightsbridge London SW1X 7JN	Telephone Telex	01 235 5760 918874 CMA UK
Name	**Dutch Dairy Bureau**		
Address	4 Swan Court Leatherhead Surrey KT22 8AH	Telephone Telex	0372 379998 299278 EDGOUD G
Name	**European Food Brokers Association**		
Address	12 Station Road Claygate Surrey KT10 9DH	Telephone Telex	0372 66891 929873
Name	**Food from Britain**		
Address	301-344 Market Towers New Convent Garden Market London SW8 5NQ	Telephone Telex	01 720 2144 267901

Name **Foods From Spain**
Address 22-23 Manchester Square
London
W1M 5AP
Telephone 01 935 6140
Telex 266552 SPOLDN G

Name **Food & Wine From France Limited - SOPEXA**
Address Nuffield House
41-46 Piccadilly
London W1V 9AJ
Telephone 01 439 8371
Telex 263144

Name **International Meat Trade Association**
Address 8 Hayne Street
London EC1A 9HH
Telephone 01 606 8675

Name **Irish Export Board**
Address Merrion Hall
Strand Road
Sandymount
Dublin 4 Ireland
Telephone 0001 695011
Telex 25227 CTT EI

Name **Irish Export Board**
Address Ireland House
New Bond Street
London W1Y AHD
Telephone 01 493 3660

Name **Italian Trade Centre (ICE)**
Address 37 Sackville Street
London
W1X 2DQ
Telephone 01 734 2412
Telex 24870 INACEL G

Name **Meat & Livestock Commission**
Address PO Box 44
Queensway House
Bletchley
Milton Keynes
Buckinghamshire MK2 2EF
Telephone 0908 74941
Telex 82227

Name **National Cold Storage Federation**
Address Tavistock House North
Tavistock Square
London WC1H 9HZ
Telephone 01 388 7766
Telex 01 388 7766

Name **National Dairy Council**
Address 5-7 John Princes Street
London
W1M 0AP
Telephone 01 499 7822
Telex 298632

Name	**National Federation of Meat Traders**		
Address	1 Belgrove Tunbridge Wells Kent TN1 1YQ	Telephone	0892 41412/4

Name	**New Zealand Meat and Wool Board**		
Address	Chancery House 53-64 Chancery Lane London WC2A 1RX	Telephone	01 405 7904/7908

Name	**United Kingdom Association of Frozen Food Producers (UKAFFP)**		
Address	1 Green Street Grosvenor Square London W1Y 3RG	Telephone Telex	01 629 0655 23739

9.4.4.1 Terms of Reference for Study of Export Marketing Organisations

It is suggested that concurrent with the establishment of the meat company a study should be sponsored of the different types of export marketing boards at present operating within Europe and the US.

9.4.4.1.1 Study Team

The study team should consist of the proposed marketing director of the meat company, a member of the marketing department of INAC and a European consultant who would be responsible for making all necessary appointments and travel arrangements.

9.4.4.1.2 Organisation

It can be seen from the list in Table 9.4.4 above that the marketing boards operate in three distinct ways:-

Individual products	-	New Zealand Meat Board
All food products	-	Food and Wine From France Limited - (SOPEXA)
All products of one nationality	-	Irish Export Board

At this stage it is suggested that the integrated approach adopted by the Irish Export Board may well be the most appropriate for Uruguayan industries as their exports of meat are considerably less than those of Ireland with an integrated approach and Australia and New Zealand with dedicated.

The study would include the relationship between the marketing boards and other organisations including:-

Government - including Ministry responsibility
Embassy
Home based industry marketing boards - INAC
Private industry
Financial institutions including banks

9.4.4.1.3 **Network of Financing**

A number of methods of financing the activities of the boards could be envisaged including:-

Direct government grant
Levy on producers or industry
Payment of the board for individual services by exporters

The study would investigate the various methods used including the perceived advantages and disadvantages. For example Food From Britain was initially launched with a government grant but must now raise its funds by industry contributions which is matched by government grant.

9.4.4.1.4 Contribution to Exports

In addition to the method of financing the study would determine the cost of providing various facilities including capital, staffing and overhead expenses.

Where appropriate the study team would discuss with the managers of exporting companies the benefits they have derived from the individual marketing boards and with the managers of the boards the contribution to increased exports which they can identify as being directly associated with the board's activities.

9.4.4.1.5 Staffing

The study would determine the methods of staffing with particular reference to the following aspects:-

Qualification of director and senior management including language capability

Previous experience particularly within government and industry

Length of service with the board - is the service on a contract, permanent or secondment basis

Nationality of senior, junior and clerical staff and the desired mix of nationality between exporters and importers

9.4.4.1.5.1 Career Structure

Employment within the marketing board could be a career within its own right or alternatively the exporting country may wish to second members of government, other marketing boards and industry to the marketing board for varying periods so that this would be seen as an integral aspect of the development of export marketing management.

9.4.4.1.5.2 Salary and Conditions of Service

Salary and conditions of service would to a large extent depend upon the career structure adopted as described above. However it important that the full cost of employing expatriate staff is assessed and the study woulfd cover the cost of housing, cars, pension and the differences between salaried and contract employment.

The study would also determine if any of the export boards operated an incentive or commission scheme so that the export managers were paid by results.

9.4.4.1.6 Budget

In addition to the method of financing the study would determine the cost of providing various facilities including capital, staffing and overhead expenses.

The study would determine the budget required for the following facilities:-

9.4.4.1.6.1 Office

The cost of the office will be dependent upon the location, size and facilities. The various boards listed in Table 9.4.4 above are located in different areas of London including the financial centre, the meat marketing centre, the West End and the suburbs. The advantages and disadvantages of these locations both in terms of cost and the facilities offered to exporters would be determined.

9.4.4.1.6.2 Staff

The cost of salaries plus other benefits for management and clerical and cleaning staff would be determined.

9.4.4.1.6.3 Advertising Promotions and Public Relations

A suitable budget to enable generic advertising of the marketing centre and Uruguay particularly in the trade press would be developed.

9.4.4.1.6.4 Library Facilities

The cost of purchase and maintenance of a library facility and on line communication with exporting companies would be determined.

9.4.4.1.6.5 Market Research

The method of supporting marketing research for individual exporting countries will vary and the study would determine the most cost effective method of ensuring that initial market research surveys are carried out promptly and efficiently.

9.4.4.1.6.6 Communications

While the establishment of a marketing office in the importing country will to a certain extent reduce the cost of communications the office will inevitably be responsible for liaison between importers and exporters and the cost of communications will therefore be high. The study will determine the most cost effective method of communication always bearing in mind that an efficient fast service is essential.

9.4.4.1.6.7 Equipment and Stationery

The budget would also be required to cover office equipment and stationery.

9.4.4.1.7 Location

While it is suggested that the major study should be carried out in London as in the first instance the major market for convenience ready prepared meat products would appear to be in the UK it may be advantageous to consider export marketing offices in other European capitals including possibly Germany, France, Italy and Belgium.

10 THE DEVELOPMENT CHAIN

This report together with the Technical Report constitutes the first element of the development process - the market survey and production of product concepts and prototypes. This chapter outlines the remaining stages of the development process and indicates the investments in both time and financial terms to successfully launch a product range.

10.1 MARKET SURVEY

There is an opportunity to launch a range of high quality high meat content prepared meals on the UK and possibly the European markets.

10.2 PRODUCT CONCEPT

The technical report details the facilities required to produce three prototype products within this range namely Steak Chasseur, Beef Kebabs and Boeuf Bourguignonne.

10.3 MARKET RESEARCH

Market research will be required to determine trade and consumer acceptance of the products suggested in this report.

10.3.1 Trade Acceptance

While this report has identified a number of methods by which the prototype products could be marketed it has not been possible within the expenses budget allocated to show the products to potential buyers.

The consultants would be happy to quote for producing further samples of the three prototype products and for demonstrating these to four or five important trade buyers.

10.3.2 Consumer Research

In addition to interesting potential retail buyers the prototype products should be subjected to consumer research to determine whether the prototype product meets the requirements of the consumer with regard to quality and price within a perceived need.

Brand owners would normally require research into two specific aspects of consumer acceptability before the launch of a new product. These would be:-

Concept testing
Product testing

10.3.2.1 Concept Testing

The market survey described in chapter 4 of this report indicates that no high quality meat products suitable for microwave and conventional oven cooking are at present on the UK market. It is postulated that the reason for this is the high price which would be required to cover the high cost of quality meat for manufacture in the UK. However before continuing with further investment the backers of the Uruguayan meat company would be well advised to determine whether this hypothesis can be confirmed by consumer research.

The normal method of consumer research would be group discussions conducted within the target market.

A number of groups (6-8 persons) of working housewives and men responsible for their own food purchasing and preparation including an adequate sample of microwave owners would be asked to discuss the prototype products. The discussions would be structured to cover sequentially the following aspects:-

The problems of providing quickly prepared meals - this section of the discussion would cover the groups attitudes towards chilled, frozen and canned foods.

The concept of the prototype products - the group would be introduced to the prototype products and asked to discuss their attitude towards purchase with an assessment of the price they would anticipate paying.

Packaging and Appearance - the group would be shown the prototype products in the anticipated packaging and asked to comment on their expectations and possibility of purchase.

Quality - the products would be presented to the groups in the cooked form. Comments would be requested with regard to the formulation of the product and whether the consumers expectations had been satisfied by the cooked product.

Finally there would be an open discussion of the products with the group being asked to focus on improvements or changes which would make the product more acceptable.

10.3.2.2 Product Testing

If the group discussions provided a positive response to the concept product testing could commence almost immediately. However if as a result of the group discussions it was felt that the product should be reformulated either to produce changes in the concept, to improve the quality or reduce the price, product testing would be delayed until a reformulated product was available.

Product testing could be either of alternative product formulations or simply of the prototype produced as described in the Technical Report. The

most effective method would probably be in home placement of the prepacked product choosing families with working housewives or where there was a high proportion of adults purchasing and preparing their own food. In any event at least 50% of the households used should own and operate a microwave oven.

The questionnaire used in product testing would investigate not only the consumers reaction towards the product in terms of quality but also the relationship of quantity to price and value for money.

Only if the results of the group discussions and product testing were positive would the Uruguayan meat company be advised to continue with the project. Products of sufficient quantity for product testing can be prepared in the UK and the consultants would be happy to prepare costed proposals to carry out this additional market research including preparation of the samples using imported frozen Uruguayan meat cuts.

10.3.2.3 Timing

It should be possible to complete the research programme including preparation of samples in three months from commissioning the research if reformulation of the products is not required following concept testing.

10.3.4 Benefits of Market Research

The market research results will provide the following benefits for the Uruguayan investors:-

If positive the results can be used to assist in selling the concept to the brand owners in the UK and will provide further evidence to permit the development of pilot plant production in Uruguay for test marketing.

If negative no further money will be wasted.

10.4 PRODUCTION DEVELOPMENT

It is understood that the Ministry of Industries (LATU) pilot plant should be commissioned early in 1987 and that this plant can be used for manufacturing the new products in sufficient quantities to permit market testing in commercial outlets.

This pilot plant will be approximately 400 m2 with 150 m2 of quality control laboratories. Facilities include chilled storage at 5C and frozen storage at -30C.

It is understood that the following equipment which can be adapted for manufacturing the products will be available:-

Ingredient mixing
Dicing and guillotining of fresh and frozen meat
A colloidal mill
Ice manufacture

Oven for cooking and smoking
Cooking tanks
Emulsifying machine
Microwave oven

It will however be necessary to purchase suitable packaging and packaging equipment as described in the Technical Report.

10.5 PACKAGING DEVELOPMENT

While the internal packaging has been described fully in the technical report and the external packaging specified in terms of its physical characteristics it is essential for the market test which will be demanded by the brand owners if the products are contract packaged that suitable artwork and high quality printing is used for the outer packaging. It is the development of the packaging design and artwork which will probably prove the most time consuming aspect of the project. If at all possible the market testing should be carried out using the brand logo in which it is intended to launch the product. For this reason negotiations with brand owners for whom it is hoped to contract pack will have to have reached at least agreement in principle prior to initiating packaging design.

Brand owners will be more inclined to co-operate if the Uruguayan meat manufacturer agrees to cover all initial design and origination costs for packaging. However it should be written into the initial agreement that if the market test is successful the brand owner will in future be responsible for all packaging origination costs and write offs.

The launching of new meat products will undoubtedly be more expensive for the Uruguayan investor than has been the experience of Fripur as the meat manufacturer is trying to obtain a foothold in an over supplied market situation compared to Fripur where there is a shortage of high quality fish.

10.6 MARKET TEST

Prior to a national launch of new products production from the pilot plant but with the sophisticated packaging required by the market, should be tested through a number of outlets. Most major brand owners in the UK would be able to arrange with a major multiple to stock the product in a number of branches (usually at least ten) for a period and to measure the uptake compared to similar products and against agreed objectives. Only if the new products can justify display in the freezer cabinets of the major multiples will the investment in a new factory be justified. The market test therefore will normally be for at least a three month period and a problem will be encountered if the pilot plant is not able to continue supplying the limited quantities required by the market test while production is increased. This period could well be a minimum of a year while the plant and equipment are installed and could easily extend to two years.

10.7 INSTALL EQUIPMENT

The technical report covers the buildings, plant and equipment required for manufacture but in a marketing context it should be noted that it may be preferable in the initial stages to use simple plant and equipment with a high investment in personnel to ensure that there is a rapid follow up if the market test is successful.

11.0 COMMERCIAL FEASIBILITY

11.1 INTRODUCTION

The product, plant and equipment costs detailed in the Technical Report have been calculated in £sterling under United Kingdom conditions. In this chapter the £sterling costs are converted to $US at a rate of £1 = $US1.524 the rate prevailing on 2nd February 1987 as reported in the Financial Times. The conversion factor for Uruguay pesos to £sterling on the same date was £1 = 281.47 Uruguay pesos.

In addition to the change in exchange rate there will be some additional costs due to the cost of freight to Uruguay and the different social conditions within Uruguay. The effect of these changes are also noted in the following paragraphs.

11.2 GROSS MARGINS

The Gross Margin for the three products has been calculated initially using the UK prices with the exception of the meat raw material which is based on the Uruguayan conditions examined in Chapter 5 and the meat costs detailed in paragraph 5.9.6.

In order to calculate the Gross Margin a retail price of 179p (£1.79) has been used. This is equivalent to a single portion of the most expensive meat product at present sold on the UK market, Birds Eye Roast Beef Platter, paragraph 4.7.6.1. The actual weight per unit of the Birds Eye Roast Beef Platter is 340gm rather more than the Boeuf Bourguignonne and Steak Chasseur (300gm) but less than the Beef Kebabs (390gm). However for the purpose of this report a common Retail Sales Value has been assumed initially.

A retail mark up of 35% has been assumed to arrive at the Net Sales Value which the Uruguayan meat manufacturer will receive for delivery of the product to a central retail depot.

In calculating the Gross Profit per annum it has been assumed that 320 tonnes of each of the three products will be sold.

11.2.1 Boeuf Bourguignonne

Table 11.2.1 shows the Gross Margin for Boeuf Bourguignonne which would be earned under UK conditions.

TABLE 11.2.1 GROSS MARGIN AT UK PRICES - BOEUF BOURGUIGNONNE

Ref		Cost/Unit p	Cost/Unit $US	Cost/ Tonne $US	Cost/ Annum $US	% Net Sales Value
4.7.6.1	Retail Sales Value	179.00	2.73	9093.20	2909824	135.00
	Net Sales Value	132.59	2.02	6735.70	2155425	100.00
Tech Report	Prime Cost Raw Materials					
4.2.2	Beef	19.88	.30	1009.90	323169	14.99
4.2.2	Onions	.97	.01	49.28	15768	.73
4.2.2	Mushrooms	5.78	.09	293.62	93960	4.36
4.2.2	Sauce	15.45	.24	784.86	251155	11.65
4.2.2	Total Raw Materials	42.08	.64	2137.66	684052	31.74
4.2.2	Packing					
4.2.2	PET Tray	6.20	.09	314.96	100787	4.68
4.2.2	Bonded Film Lid	1.13	.02	57.40	18369	.85
4.2.2	Carton	5.49	.08	278.89	89245	4.14
4.2.2	Export Case	1.52	.02	77.22	24709	1.15
4.2.2	Total Packing	14.34	.22	728.47	233111	10.82
4.2.2	Direct Labour	3.50	.05	177.80	56896	2.64
4.2.2	Total Prime Cost	59.92	.91	3043.94	974060	45.19
	Gross Margin	72.67	1.11	3691.77	1181366	54.81

The Gross Margin of almost 55% of Net Sales Value would be totally adequate under UK conditions.

11.2.2 Steak Chasseur

Table 11.2.2 shows the Gross Margin for Steak Chasseur which would be earned under UK conditions.

TABLE 11.2.2 GROSS MARGIN AT UK PRICES - STEAK CHASSEUR

Ref		Cost/Unit p	Cost/Unit $US	Cost/ Tonne $US	Cost/ Annum $US	% Net Sales Value
4.7.6.1	Retail Sales Value	179.00	2.73	9093.20	2909824	135.00
	Net Sales Value	132.59	2.02	6735.70	2155425	100.00
Tech Report	Prime Cost Raw Materials					
4.3.2	Beef	23.45	.36	1191.26	381203	17.69
4.3.2	Garnish	9.48	.14	481.58	154107	7.15
4.3.2	Sauce	6.21	.09	315.47	100950	4.68
4.3.2	Total Raw Materials	39.14	.60	1988.31	636260	29.52
	Packing					
4.3.2	PET Tray	6.20	.09	314.96	100787	4.68
4.3.2	Bonded Film Lid	1.13	.02	57.40	18369	.85
4.3.2	Carton	5.49	.08	278.89	89245	4.14
4.3.2	Export Case	1.52	.02	77.22	24709	1.15
4.3.2	Total Packing	14.34	.22	728.47	233111	10.82
4.3.2	Direct Labour	3.17	.05	161.04	51532	2.39
4.3.2	Total Prime Cost	56.65	.86	2877.82	920902	42.72
	Gross Margin	75.94	1.16	3857.88	1234523	57.28

The Gross Margin of over 57% of Net Sales Value would be totally adequate under UK conditions.

11.2.3 Beef Kebabs

Table 11.2.3 shows the Gross Margin which would be earned under UK conditions at a Retail Price of 179p per unit.

TABLE 11.2.3 GROSS MARGIN AT UK PRICES - BEEF KEBABS

Ref		Cost/Unit p	Cost/Unit $US	Cost/ Tonne $US	Cost/ Annum $US	% Net Sales Value
4.7.6.1	Retail Sales Value	179.00	2.73	6995	2238326	135.00
	Net Sales Value	132.59	2.02	5181	1658019	100.00
Tech Report	Prime Cost Raw Materials					
4.4.2	Beef	25.79	.39	1008	322494	19.45
4.4.2	Onions	1.70	.03	66	21258	1.28
4.4.2	Peppers	6.09	.09	238	76153	4.59
4.4.2	Sauce	11.53	.18	451	144178	8.70
	Total Raw Materials	45.11	.69	1763	564083	34.02
	Packing					
4.4.2	PET Tray	10.13	.15	396	126672	7.64
4.4.2	Bonded Film Lid	1.44	.02	56	18007	1.09
4.4.2	Carton	9.16	.14	358	114542	6.91
4.4.2	Export Case	1.60	.02	63	20007	1.21
4.4.2	Total Packing	22.33	.34	873	279228	16.84
4.4.2	Direct Labour	4.50	.07	176	56271	3.39
	Total Prime Cost	71.94	1.10	2811	899582	54.26
	Gross Margin	60.65	.92	2370	758437	45.74

It can be seen that due to the very much higher raw material and packaging costs the gross margin as a percentage of Net Sales Value for this product is only 46% at UK prices. It could certainly be argued that the Retail Sales Value could be increased to allow for the greater weight of the individual products and this has been done in Table 11.2.3.1 where the Retail Sales Value has been increased by approximately the same weight increment to give a Retail Sales Value of 229p. This can be justified by the fact that the Beef Kebab could be considered a two portion pack.

TABLE 11.2.3.1 GROSS MARGIN OF BEEF KEBABS AT UK COSTS WITH INFLATED RETAIL VALUE

Ref		Cost/Unit p	Cost/Unit $US	Cost/ Tonne $US	Cost/ Annum $US	% Net Sales Value
4.7.6.1	Retail Sales Value	229.00	3.49	8949	2863557	135.00
	Net Sales Value	169.63	2.59	6629	2121153	100.00
Tech Report	Prime Cost Raw Materials					
4.4.2	Beef	25.79	.39	1008	322494	15.20
4.4.2	Onions	1.70	.03	66	21258	1.00
4.4.2	Peppers	6.09	.09	238	76153	3.59
4.4.2	Sauce	11.53	.18	451	144178	6.80
	Total Raw Materials	45.11	.69	1763	564083	26.59
	Packing					
4.4.2	PET Tray	10.13	.15	396	126672	5.97
4.4.2	Bonded Film Lid	1.44	.02	56	18007	.85
4.4.2	Carton	9.16	.14	358	114542	5.40
4.4.2	Export Case	1.60	.02	63	20007	.94
4.4.2	Total Packing	22.33	.34	873	279228	13.16
4.4.2	Direct Labour	4.50	.07	176	56271	2.65
	Total Prime Cost	71.94	1.10	2811	899582	42.41
	Gross Margin	97.69	1.49	3817	1221571	57.59

When the price is inflated to allow for the additional weight the Gross Margin as a percentage of Net Sales Value is similar to the other products and totally adequate under UK conditions.

11.3 GROSS MARGIN ADJUSTED FOR URUGUAYAN CONDITIONS

A number of the ingredients and the packaging materials will be imported into Uruguay. It is impossible in the context of this report to determine the actual costs of these materials in Uruguay but in the following three tables inflation factors to cover freight, insurance, port handling and bank charges have been applied as follows:

Sauce Ingredients	20%
PET Tray	30%
Bonded Film Lid	30%
Individual Printed Wax Cartons	20%
Outer Casing	20%

A lower figure has been allowed for the ingredients, cartons and outer packaging as it is likely that at least a proportion of these items can be procured within Uruguay.

No adjustment has been made to the Direct Labour charges although it is certain that these will differ from the United Kingdom. The cost used for all Direct Labour is £3.00 per hour which is equivalent to $US4.572 per hour or Uruguayan pesos 844.41 per hour. This labour cost includes allowances for National Insurance, sickness, holidays etc. Direct Labour is always less than 3% of Net Sales Value and for this reason even if the UK estimate is 100% wrong it will not materially affect the margins.

TABLE 11.3.1 GROSS MARGIN ADJUSTED FOR URUGUAYAN CONDITIONS - BOEUF BOURGUIGNONNE

Ref		Cost/Unit p	Cost/Unit $US	Cost/ Tonne $US	Cost/ Annum $US	% Net Sales Value
11.2.1	Retail Sales Value	179.00	2.73	9093.20	2909824	135.00
11.2.1	Net Sales Value	132.59	2.02	6735.70	2155425	100.00
	Prime Cost					
	Raw Materials					
11.2.1	Beef	19.88	.30	1009.90	323169	14.99
11.2.1	Onions	.97	.01	49.28	15768	.73
11.2.1	Mushrooms	5.78	.09	293.62	93960	4.36
	Sauce	18.54	.28	941.83	301386	13.98
	Total Raw Materials	45.17	.69	2294.64	734284	34.07
	Packing					
	PET Tray	8.06	.12	409.45	131023	6.08
	Bonded Film Lid	1.47	.02	74.63	23880	1.11
	Carton	6.59	.10	334.67	107095	4.97
	Export Case	1.82	.03	92.66	29651	1.38
	Total Packing	17.94	.27	911.40	291649	13.53
11.2.1	Direct Labour	3.50	.05	177.80	56896	2.64
	Total Prime Cost	66.61	1.02	3383.84	1082828	50.24
	Gross Margin	65.98	1.01	3351.86	1072597	49.76

A comparison of Table 11.2.1 and 11.3.1 indicates that the oncosts which may be involved in importing packaging materials and sauce ingredients could involve a reduction of gross margin in the order of 5% which is considerably greater than the total Direct Labour involvement.

TABLE 11.3.2 GROSS MARGIN ADJUSTED FOR URUGUAYAN CONDITIONS - STEAK CHASSEUR

Ref		Cost/Unit p	Cost/Unit $US	Cost/ Tonne $US	Cost/ Annum $US	% Net Sales Value
11.2.2	Retail Sales Value	179.00	2.73	9093.20	2909824	135.00
11.2.2	Net Sales Value	132.59	2.02	6735.70	2155425	100.00
	Prime Cost					
	Raw Materials					
11.2.2	Beef	23.45	.36	1191.26	381203	17.69
11.2.2	Garnish	9.48	.14	481.58	154107	7.15
	Sauce	7.45	.11	378.56	121140	5.62
	Total Raw Materials	40.38	.62	2051.41	656450	30.46
	Packing					
	PET Tray	8.06	.12	409.45	131023	6.08
	Bonded Film Lid	1.47	.02	74.63	23880	1.11
	Carton	6.59	.10	334.67	107095	4.97
	Export Case	1.82	.03	92.66	29651	1.38
	Total Packing	17.94	.27	911.40	291649	13.53
11.2.2	Direct Labour	3.17	.05	161.04	51532	2.39
	Total Prime Cost	61.49	.94	3123.84	999630	46.38
	Gross Margin	71.10	1.08	3611.86	1155795	53.62

The reduction in gross margin as a percentage of Net Sales Value is rather less than with Boeuf Bourguignonne due to the higher meat content and cheaper sauce. The difference is however still greater than the Direct Labour.

TABLE 11.3.3 GROSS MARGIN ADJUSTED FOR URUGUAYAN CONDITIONS WITH INCREASED RETAIL PRICE - BEEF KEBABS

Ref		Cost/Unit p	Cost/Unit $US	Cost/ Tonne $US	Cost/ Annum $US	% Net Sales Value
11.2.3.1	Retail Sales Value	229.00	3.49	8949	2863557	135.00
	Net Sales Value	169.63	2.59	6629	2121153	100.00
	Prime Cost					
	Raw Materials					
11.2.3.1	Beef	25.79	.39	1008	322494	15.20
11.2.3.1	Onions	1.70	.03	66	21258	1.00
11.2.3.1	Peppers	6.09	.09	238	76153	3.59
	Sauce	13.84	.21	541	173014	8.16
	Total Raw Materials	47.42	.72	1853	592919	27.95
	Packing					
	PET Tray	13.17	.20	515	164673	7.76
	Bonded Film Lid	1.87	.03	73	23409	1.10
	Carton	10.99	.17	430	137451	6.48
	Export Case	1.92	.03	75	24009	1.13
	Total Packing	27.95	.43	1092	349542	16.48
11.2.3.1	Direct Labour	4.50	.07	176	56271	2.65
	Total Prime Cost	79.87	1.22	3121	998731	47.08
	Gross Margin	89.76	1.37	3508	1122422	52.92

Application of the inflation factors to cover importation of ingredients and packaging materials reduces the gross margin of Beef Kebabs by approximately 4.6% of Net Sales Value, again considerably more than the Total Direct Labour.

11.4 GROSS PROFIT

Table 11.4 summarises the costs which would be involved in the manufacture of 960 tonnes of the new products to provide a gross profit of $US3.4 million.

TABLE 11.4 SUMMARY OF GROSS PROFIT

	Boeuf Bourguignonne $US'000	Steak Chasseur $US'000	Beef Kebabs $US'000	Total $US'000	Total %
Net Sales Value	2155	2155	2121	6432	100
Raw Materials					
Meat	323	381	322	1027	16
Others	411	275	270	957	15
Packing	292	292	350	933	15
Labour	57	52	56	165	3
Prime Cost	1083	1000	999	3081	48
Gross Profit	1073	1156	1122	3351	52

Despite the high meat content of these products, other ingredients and packaging accounts for over 60% of the prime cost of the total prime cost and almost 30% of Net Sales Value.

It is therefore obvious that the Procurement Manager will be responsible for gross purchases approaching $US3 million per annum and savings made in purchasing ingredients and packaging will be of major importance to the profitability of the company. With this high cost of raw material accurate stock control is also essential.

Having estimated the Gross Profit under Uruguayan conditions it is now necessary to determine the cost of:

Marketing in the UK
Duty Payable
Shipping
Working Capital
Fixed Capital
General Expenses

as shown in the following paragraphs.

11.5 GROSS PROFIT AFTER DUTY

Imports into the EEC are subject to customs duty as described in paragraph 4.4.3 and Appendix 2.

It has been confirmed by Mr Ross of the Customs and Excise Department at the Department of Industry, Dorset House, Stamford Street, London SE1 (telephone 01 928 0533) that the correct customs category for the three products will be:

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and that this category invites a customs duty of 26% of the CIF price of products imported into the UK.

It is recommended that before continuing with the proposed feasibility the Uruguayan importers should obtain written confirmation from Customs and Excise that these products do attract this duty.

After the products have landed an agent will be responsible for primary distribution. For the purpose of this exercise it has been assumed that distribution and the commission for the agent will amount to 10% of the net landed value after duty.

Table 11.5 has been calculated to determine the CIF value which could be obtained with the Retail Sales Values assumed in paragraphs 11.2 and 11.3 above.

TABLE 11.5 GROSS PROFIT AFTER DISTRIBUTION AND DUTY

	Boeuf Bourguignonne $US'000	Steak Chasseur $US'000	Beef Kebabs $US'000	Total $US'000	%
Net Sales Value	2155	2155	2121	6432	100
Agent and Distribution	(196)	(196)	(193)	(585)	9
Landed Price	1959	1959	1928	5847	91
Duty	(404)	(404)	(398)	(1207)	19
CIF Before Duty	1555	1555	1530	4641	72
Prime Cost	(1083)	(1000)	(999)	(3081)	48
Gross Profit after Duty	472	556	532	1560	24

Table 11.5 indicates that the agents fees, distribution and duty reduce the gross profits by more than 50% from $US3.351 million to $US1.560 million.

11.6 FREIGHT AND INSURANCE

11.6.1 Palletised

Frozen foods would normally be handled in the United Kingdom on pallets in containers. Table 11.6.1 has been constructed to show the cost per tonne of shipping the three products from Montevideo to Tilbury assuming 10 pallets per container and a cost of DM5642 for a container as provided by INAC.

TABLE 11.6.1 FREIGHT COSTS USING CONTAINERISED PALLETS

		Boeuf Bourguignonne	Steak Chasseur	Beef Kebabs	Total
Case Dimensions		184x530x130mm	184x530x130mm	228x530x175mm	
Cases/Layer		10	10	9	
Layers		12	12	9	
Cases/Pallet		120	120	81	
Units/Case		12	12	12	
Weight/Unit		300gm	300gm	390gm	
Weight/Case		3.60Kg	3.60Kg	4.68Kg	
Weight/Pallet		432Kg	432Kg	379Kg	
Weight/Container		4320Kg	4320Kg	3790Kg	
Cost/Container	DM	5642	5642	5642	
Cost/Container	$US	3121	3121	3121	
Cost/Tonne	$US	722	722	823	
Cost/Annum	$US	231040	231040	320970	783050

It can be seen by comparing Tables 11.6.1 and 11.5 that if the products were freighted to the United Kingdom on pallets the total freight costs would be 50% of the Gross Profit after duty and this would obviously be unacceptable.

11.6.2 Containerised Freight with Hand Loading

In order to determine whether savings could be made by hand loading the container. Table 11.6.1 has been recalculated as shown in Table 11.6.2.

TABLE 11.6.2 CONTAINERISED FREIGHT WITH HAND LOADING

		Boeuf Bourguignonne	Steak Chasseur	Beef Kebabs	Total
Case Dimensions		184x530x130mm	184x530x130mm	228x530x175mm	
Case Cubic Metres		0.0126776	0.0126776	0.021147	
External Dimensions Container			6000 x 2400 x 2400		
Cubic Capacity Container			34.56 Cubic Metres		
Cases/Container		2726	2726	1634	
Weight/Case		3.60Kg	3.60Kg	4.68Kg	
Weight/Container		9813Kg	9813Kg	7647Kg	
90% Capacity		8832Kg	8832Kg	6882Kg	
Cost/Container	DM	5642	5642	5642	
Cost/Container	$US	3121	3121	3121	
Cost/Tonne	$US	354	354	454	
Cost/Annum	$US	113280	113280	145280	371840

It can be seen by comparing Tables 11.6.1 and 11.6.2 that hand loading of the cases into the container will affect savings in the order of $US400,000. It is unlikely that the labour costs either in Uruguay or the UK in loading the containers and palletising on arrival will seriously alter the total margins and for the sake of this exercise they have been ignored.

11.7 WORKING CAPITAL

The working capital requirements for this factory will be relatively high due to the seasonality of meat supply, the importation of raw materials and the export of finished goods.

The following paragraphs detail the assumptions with regard to stock holding which have been made in calculating the Working Capital as summarised in Table 11.7 which also shows the cost of finance assuming 10% interest

TABLE 11.7 WORKING CAPITAL REQUIREMENTS

Ref		Annual Cost $US'000	Months	Working Capital $US	Interest Rate %	Interest Cost $US
	Raw Materials					
11.4	Meat	1027	4	342333	10	34233
11.4	Other Ingredients	957	6	478500	10	47850
11.4	Packing	933	12	933000	10	93300
	Total Raw Materials			1753833		175383
	Finished Goods					
11.5	Factory Stocks	3081	1	256750	10	25675
11.5	In Transit	4641	1	386750	10	38675
11.5	Primary Distribution	5847	1	487250	10	48725
11.5	Customer Credit	5847	2	974500	10	97450
	Total Finished Goods			2105250		210525
	Total Working Capital			3859083		385908

11.7.1 Raw Materials

11.7.1.1 Meat

As discussed in paragraph 5.4 the production of steer meat in Uruguay is very seasonal with supplies coming forward between December and July to EEC slaughter plants. For this reason it is essential to have a large cold store and to have sufficient meat in stock in July to cover production up to at least the beginning of December. Thus while from December to March it is likely that the stocks will be relatively low ie 4 to 6 weeks, by May it will be necessary to have built up stocks to approximately 7 months supply which will fall by 1st December to one months supply. In Table 11.7 an average stocking rate of 4 months has been used.

11.7.1.2 Other Ingredients

A high percentage of the other ingredients are sophisticated seasonings which can either be imported separately or as formulations. The quantities required are relatively small and it is almost certain that these will have to be imported in relatively large quantities probably only once a year so that the average stock will be six months. Marginal savings of this item could be made by using fresh vegetables produced in Uruguay.

11.7.1.3 Packaging Materials

There is usually a long lead time in the production of sophisticated packaging materials and initiation costs are high so it is likely that relatively high stocks particularly of the trays, lidding materials and printed cartons will be held. Again savings could be made by manufacturing a higher proportion of the packaging materials in Uruguay or by purchasing reels and manufacturing the trays in the plant using thermoforming equipment (paragraph 7.3.2.). At the present time 12 months average stock has been assumed.

11.7.2 Finished Goods

The distribution chain from the factory in Uruguay to the retailer in Europe has to be financed and this will tend to be extended. The figures shown in Table 11.7 have been calculated using the following assumptions.

11.7.2.1 Factory Stocks

It has been assumed that on average the factory will carry approximately 1 months stock of finished goods which is awaiting shipping. This will be essential to allow time for Quality Control clearance and to build sufficient stocks of all 3 products before export. Working capital on these items has been costed at Prime Cost.

11.7.2.2 In Transit to Europe

It has been assumed that a total of 1 months stock will be in transit between Montevideo and the receiving port in Europe before being ready for primary distribution by the agent and before duty is paid.

11.7.2.3 Primary Distribution

It will be essential to keep a minimum of one months stock of finished goods in Europe in order to accommodate fluctuating sales patterns and this has been costed in at CIF plus duty.

11.7.2.4 Customer Credit

Although the normal terms of the business are 30 days from receipt of goods the average period of credit in the UK is now 60 days or 2 months and this has been allowed in calculating the working capital. Consumer credit is at full Net Sales Value.

11.7.3 Summary of Working Capital Requirements

While it may be possible to make marginal savings on the working capital required for raw materials it is highly unlikely that savings will be made on finished goods.

11.8 EQUIPMENT COSTS AND DEPRECIATION

Before calculating the depreciation on the equipment and buildings it is necessary to adjust the figures to allow for importation into Uruguay.

The equipment costs shown in Chapter 6 of the Technical Report are all ex factory prices in the United Kingdom. Equipment suppliers are not prepared to provide CIF prices for delivery to Uruguay on an ad hoc basis and therefore for the purposes of this report it has been assumed that freight and insurance to Montevideo will be approximately 20% of the ex factory price. In addition to freight and insurance, port charges will be levied and these have been estimated by Uruguayan importers at 10% made up of 6% port handling charges and 4% bank charges.

It is understood that where the equipment is required for a factory involved 100% in export, no customs duties or other taxes will be levied.

11.8.1 Basic Line

A high proportion of the equipment required will be used on all three products but only one line will be equipped in the initial stages. However in Tables 11.8.1 to 11.8.3 the basic line (from Table 6.1 of the Technical Report) has been shown under Boeuf Bourguignonne with the additional equipment required for Beef Kebabs and Steak Chasseur shown separately.

TABLE 11.8.1 EQUIPMENT COSTS - BOEUF BOURGUIGNONNE

		Ex Factory Price United Kingdom £	Ex Factory Price United Kingdom $US	CIF 20% $US	Port Charges 10% $US	No	Total $US
Table 6.1							
	Scales						
(	Spice Room	1100	1676	335	201	1	2213
1-6 (	Bench Platform	1250	1905	381	229	2	5029
(	Floor	4000	6096	1219	732	1	8047
(	Line Weighing	500	762	152	91	8	8047
(	Containers						
7 (	Plastic	3000	4572	914	549	1	6035
(	Stainless Steel	250	381	76	46	12	6035
8-10 (	Can Opener	1100	1676	335	201	1	2213
11 (	Tempering Unit	80000	121920	24384	14630	1	160934
12 (	Bandsaw	2500	3810	762	457	1	5029
13 (	Dicer	6000	9144	1829	1097	1	12070
14 (	Slurry System						
(	Vessel	1500	2286	457	274	1	3018
(	Mixer	2000	3048	610	366	1	4023
15-16 (	Pumps and Pipework	1667	2540	508	305	3	10058
(	Cooking Vessels						
17 (	1000 litres	54450	82982	16596	9958	1	109536
(	500 Litres	46000	70104	14021	8412	1	92537
(	Hoists	8000	12192	2438	1463	1	16093
18 (	Sauce Filler	7500	11430	2286	1372	2	30175
20 (	Checkweigh/MD	10200	15545	3109	1865	1	20519
22 (	Tray Lidder	32000	48768	9754	5852	1	64374
20 (	Metal Detector						
	Holding Tank	2000	3048	610	366	1	4023
18 (	Conveyor	6000	9144	1829	1097	1	12070
	Cartoning Machine	15000	22860	4572	2743	1	30175
	Total ready to install						612255

The only equipment which is required specifically for the Boeuf Bourguignonne line is the bandsaw and holding tank which together amount to just over US$9,000, approximately 1.5% of the equipment cost.

11.8.2 Additional Equipment for Beef Kebabs

Table 11.8.2 shows the additional equipment required to produce Beef Kebabs and Steak Chasseur from Table 6.3 of the Technical Report.

TABLE 11.8.2 ADDITIONAL EQUIPMENT COSTS FOR BEEF KEBABS

		Ex Factory Price United Kingdom		CIF 20%	Port Charges 10%	No	Total
		£	$US	$US	$US		$US
Table 6.3							
23	Press	35000	53340	10668	6401	1	70409
13	Dicer Change Parts	1500	2286	457	274	1	3018
30	Belt Grill	140000	213360	42672	25603	1	281635
22	Tray Lidder Change Parts	6000	9144	1829	1097	1	12070
32	Kebab Machine	6000	9144	1829	1097	1	12070
	Total additional Equipment for Beef Kebabs						379202

The only costs which are specifically for the manufacture of Beef Kebabs are the change parts for the dicer and tray lidder and the kebab machine, a total of US$27,000.

11.8.3 Additional Equipment for Steak Chasseur

Table 11.8.3 shows the additional equipment required to produce Steak Chasseur from Table 6.2 of the Technical Report.

TABLE 11.8.3 ADDITIONAL EQUIPMENT COSTS FOR STEAK CHASSEUR

		Ex Factory Price United Kingdom		CIF 20%	Port Charges 10%	No	Total
		£	$US	$US	$US		$US
Table 6.2							
23	Press Change parts	8000	12192	2438	1463	1	16093
25	Slicer	20000	30480	6096	3658	1	40234
33-34	Garnish Mixer	6500	9906	1981	1189	1	13076
	Total additional Equipment for Steak Chasseur						69403

All the items listed in Table 11.8.3 are specifically required for the manufacture of Steak Chasseur.

11.8.4 Summary of Equipment Costs

Table 11.8.4 summarises the equipment costs by product.

TABLE 11.8.4 SUMMARY OF EQUIPMENT COSTS

	Boeuf Bourguignonne	Steak Chasseur	Beef Kebabs	Total $US
All Products	x	x	x	389058
2 Products	x	x		109536
	x		x	104607
		x	x	352044
1 Product	x			9052
		x		69403
			x	27158
Total				1060858

Table 11.8.4 has been constructed to show the interdependence of the three product lines. It is obvious from this table that no significant savings can be made by not producing one of the three products.

1.8.5 Ancillary Equipment

The ancillary equipment shown in Table 6.4 of the Technical Report is again at UK prices and similar factors to those discussed above have been used to find the cost at installation in Uruguay.

TABLE 11.8.5 ANCILLARY EQUIPMENT

	Ex Factory Price United Kingdom		CIF 20%	Port Charges 10%	No	Total
	£	$US	$US	$US		$US
Freezer	123000	187452	37490	22494	1	247437
Trays and Trolleys	700	1067	213	128	12	16898
Chill Room and Electrics	35000	53340	10668	6401	1	70409
Floor Scrubbing Machine	10000	15240	3048	1829	1	20117
Pallet Trucks						
Reach Truck	25000	38100	7620	4572	1	50292
Forklift Truck	15000	22860	4572	2743	1	30175
Hand Jacks	4000	6096	1219	732	3	24140
Batteries and Chargers	6200	9449	1890	1134	1	12472
Total						471940

11.8.6 Total Equipment and Depreciation

Table 11.8.6 shows the total cost of the production lines and ancillary equipment on which depreciation has been calculated assuming a 10 year life.

TABLE 11.8.6 TOTAL EQUIPMENT AND DEPRECIATION

Production Lines	$US1060858
Ancillary Equipment	$US 471940
Total Cost	$US1532799
Depreciation of 10%	$US 153280

11.9 BUILDING COSTS AND EQUIPMENT

Building costs have been calculated in Table 6.4 of the Technical Report at UK prices. However INAC have provided guideline figures for Uruguayan conditions and these have been used in Table 11.9 to recalculate the cost of building with estimated depreciation at 5% ie a 20 year life.

The factory layout at Attachment 8 of the Technical Report is approximately in the scale 1:100 and the measurements have been used to construct Table 11.9 Building Costs. The different areas of the building will have very different finishes and therefore totally different building costs as described below.

TABLE 11.9 BUILDING COSTS

	Dimensions/ Metre	Cost/Sq Metre Pesos	Cost/Sq Metre $US	Total $US
Factory	25x37	65000	352	325600
Cold Store	16x32	80000	433	665088
Office and Welfare Areas	14x25	40000	217	75950
Storage Area	19x15	35000	190	54150
Total				1120788
Depreciation 5%				56039

11.9.1 Production Areas

Factory production areas will be finished to a high standard to meet the EEC regulations and INAC have provided a cost for EEC meat preparation rooms which has been used in the calculation.

11.9.2 Cold Store

The cold store shown in the factory plan is in fact approximately 13.5 metres high. INAC provided a cost for building a prefabricated cold store 4.5 metres high which would have been 80000 pesos per square metre. A factor of treble this has been used for the higher building. It is obvious that alternatively sectionalised lower buildings could be used and this could possibly reduce the cost of reach trucks included in the equipment costs.

11.9.3 Office and Welfare Areas

INAC provided a cost of 30 to 40000 pesos per square metre for office space. The higher figure has been used on this occasion not only for the offices but also for the cloakroom areas.

11.9.4 Storage Areas

Because of the importance of purchasing forward packaging and ingredient supplies large storage areas are required and these have been costed at the lower price for the office space in the INAC estimates.

11.9.5 Depreciation

A depreciation factor of 2% ie a 50 year life has been used in the Technical Report. However this is not normal practice in Europe for food plants and 5% or a 20 year life has been used in Table 11.9 above.

11.10 GENERAL EXPENSES

In calculating the general expenses four levels of management and clerical staff have been assumed as follows:

Senior Managers	$US15000/annum
Junior Managers and Factory Supervisors	$US10000/annum
Clerical and Technical Assistants	$US 6000/annum
General Workers	$US 5000/annum

In calculating the total expenses of these Managers a multiplying factor of 3 has been taken to cover the total cost of employment including National Insurance, sickness benefit, office space, protective clothing, stationery, communications and general overheads.

The total number of personnel required is analysed in Table 11.10 and discussed below.

TABLE 11.10 ANALYSIS OF GENERAL EXPENSES

	Senior Management	Junior Management	Clerical Technical	General Workers	Total Number	$US
Procurement	1	1	2	1	5	126000
Factory	1	1	5	2	9	195000
Quality Assurance	1	2	2	1	6	156000
Development		1	1		2	48000
Personnel and Welfare		2	1	5	8	153000
Accounts	1	1	3		5	129000
Commercial	1	1	2		4	111000
Total	5	9	16	9	39	918000

11.10.1 Procurement

The Procurement Department will be responsible for the purchase of raw materials including meat ingredients and packaging to a total value of approximately $US3million. Staff suggested include a Senior Manager responsible for procurement policy, a Junior Manager who would probably be responsible for ingredients and/or packaging, two Clerical Assistants who would provide secretarial and clerical services including the placement of orders and progress chasing. An additional General Worker has been included as a driver and messenger for Customs clearance.

11.10.2 Factory

11.10.2.1 General Factory Management

A Factory Manager will be required to control all aspects of the factory including production planning, engineering and site maintenance. The Factory Manager would also be responsible for Personnel and Welfare.

11.10.2.2 Production

Two Line Supervisors have been included, one of whom would be responsible for general online production and the other for movements throughout the factory including the cold store.

11.10.2.3 Engineering

An Assistant Factory Manager would ideally be an engineer responsible for the installation and maintenance of all plant and equipment. Two Technical Assistants, at least one of whom would have had experience of electronic equipment including weighing machines and the other with experience of refrigeration would be required.

11.10.2.4 Clerical Assistants

A Secretary and General Clerical Assistant would be required for the Factory Manager.

11.10.2.5 General Workers

Two General Workers have been costed for the factory for cleaning and maintenance.

11.10.3 Technical Department

Although the Quality Assurance and Development Requirements have been shown separately in Table 11.10 the Technical Department should be managed by a Senior Manager who should be a qualified Food Technologist.

11.10.3.1 Quality Control and Assurance

Quality Assurance will involve not only online quality control including check weighing and sampling procedures but also microbiological and chemical analysis of raw materials, work in progress and finished goods. To carry out this work an experienced Microbiologist and probably a Chemist will be required with Technical Assistants. One General Worker will be required for cleaning equipment, laboratories and offices. One of the Technical Assistants should have experience in clerical work and will provide a clerical service to the Technical Department.

11.10.3.2 Development

The success of the project will depend upon a high level of technical development both process and product. An experienced Food Technologist with a Technical Assistant will be required to produce new products and to liaise with customers.

11.10.4 Personnel and Welfare

11.10.4.1 Personnel Department

A junior Personnel Manager responsible to the Factory Manager will be required for all recruitment and staff welfare including personnel records and wages. The department will also require secretarial and clerical assistance.

11.10.4.2 Canteen

A Canteen Manager also responsible for the laundry and cleaning within the welfare and cloakroom areas and responsible to the Factory Manager will be required. A total of five General Workers will be required to provide canteen, laundry and general cleaning facilities.

11.10.5 Accounts

A Senior Financial Accountant will be required to be responsible for all accounting procedures throughout the company. A junior Accountant ideally experienced in computerised accounts including production control will almost certainly be required. Three Clerical Assistants will be required to provide secretarial, bookkeeping and data processing facilities.

11.10.6 Commercial Management - Marketing

A Commercial Manager will be required to be responsible for the marketing and sales of all company products including the appointment of shipping agents and distribution and marketing agents in Europe.

It will be necessary for the Commercial Marketing Manager to travel widely within Europe to contact customers who will not be prepared to travel to Uruguay. For this reason a Junior Manager will be required to maintain day to day mangement of the Marketing Department and to liaise between the senior management overseas and the factory.

In addition to the sales function the Marketing Department will be responsible for the initiation of all packaging artwork, approval of products, promotion and advertising expenditure.

Two Clerical Assistants would be required to give a secretarial service and for order processing including shipping, Customs, quality control and bank clearance.

11.10.7 Summary of General Expenses

In the initial stages it may not be necessary to employ the total management shown in Table 11.10 but all the functions discussed must be covered if the project is to be successful and it is unlikely that major savings will be achieved.

It is recommended however that the Uruguayan investors check the multiplying factor of 3 which has been used to determine whether savings could be made in this area but it must be remembered that both the Procurement and Commercial Departments will be involved in very considerable overseas travel which may also involve the Technical Department. For the same reasons communication costs including Telex and Fax facilities will be expensive.

The budget must also cover general heating and lighting, protective clothing and the provision of canteen and welfare requirements.

It is unlikely that the company will be able to operate with less than three company cars and some form of refrigerated transport. The budget does not provide for any transport either for collection of raw materials from meat factories or the docks or for delivery of finished goods to the docks. It is assumed that this would be hired as and when required in the first instance.

11.11 TRADING ACCOUNT

Table 11.11 has been constructed using the costs and expenses detailed above.

TABLE 11.11 TRADING ACCOUNT

		Total $US'000	%	$US/ Tonne
11.4	Net Sales Value	6432	100	6700
11.5	Agent and Distribution	(585)	(9)	(609)
11.5	Landed Price	5847	91	6091
11.5	Duty	(1207)	(19)	(1257)
11.5	CIF Before Duty	4641	72	4834
11.4	Prime Cost	(3081)	(48)	(3210)
11.5	Gross Profit after duty	1560	24	1624
11.6.2	Shipping	(372)	(6)	(387)
11.7	Working Capital	(386)	(6)	(402)
11.8.6	Depreciation Equipment	(153)	(2)	(160)
11.9	Depreciation Building	(56)	(1)	(58)
11.10	Management Expenses	(918)	(14)	(956)
	Surplus after all Expenses	-326	-5	-339

Table 11.1 demonstrates that the project as described is not viable and would result in a loss of approximately $US326000 on a sale of $US6.4m.

There are a number of areas in which savings could be made and it may be possible to obtain a higher price for these high quality products. Before rejecting the project as totally unviable it is recommended that the Uruguayan investors obtain more accurate estimates particularly of the following parameters.

11.11.1 Net Sales Value

The Net Sales Value has been based on the highest priced products at present being sold in the United Kingdom. Due to the limitation on expenses imposed by UNIDO and the total money available for this Feasibility Study it has not been possible to present the finished samples to UK buyers. The pricing of products of this nature will always be to a large extent subjective and a matter of negotiation. An increase in the Retail Selling Price of 10% will increase the Net Sales Value by $US647000 which would provide a small surplus as shown in Table 11.11.1.

TABLE 11.11.1 TRADING ACCOUNT WITH NET SALES VALUE INCREASED BY 10%

		Total $US'000	%	$US/ Tonne
11.4	Net Sales Value	7079	100	7373
11.5	Agent and Distribution	(644)	(9)	(670)
11.5	Landed Price	6435	91	6703
11.5	Duty	(1482)	(21)	(1543)
11.5	CIF Before Duty	5107	72	5320
11.4	Prime Cost	(3081)	(44)	(3210)
11.5	Gross Profit after duty	2026	29	2110
11.6.2	Shipping	(372)	(5)	(387)
11.7	Working Capital	(386)	(5)	(402)
11.8.6	Depreciation Equipment	(153)	(2)	(160)
11.9	Depreciation Building	(56)	(1)	(58)
11.10	Management Expenses	(918)	(13)	(956)
	Surplus after all Expenses	141	2	147

11.11.2 Prime Cost Items

Savings in raw material costs may be achieved by producing seasonings and garnishes within Uruguay and exporters may be able to obtain meat at a lower price than the FOB prices that have been adopted in this study particularly as there has been a tendency for meat prices to fall over the past 5 years as demonstrated in Table 5.9.

Packaging has been based on importing expensive preformed packaging and investment in a thermoforming line eg the Tiromat (see equipment list of Volume I) may reduce the Prime Cost at the expense of capital equipment.

11.12 RETURN ON CAPITAL INVESTMENT

11.12.1 Total Capital

The total fixed and working capital investment required is shown in Table 11.12.1.

TABLE 11.12.1 TOTAL CAPITAL

Ref		$US
11.7	Working Capital	3859083
11.8.3	Equipment	1532798
11.9	Buildings	1120788
	Total	6512669

11.12.2 Return on Capital Employed

It can be seen by comparing Tables 11.11.1 and 11.12.1 that the return on capital employed even when the Retail Sales Price has been increased by 10% would only be 2% which is totally inadequate. Table 11.12.2 calculates the Net Sales Value required to obtain a return on Capital Employed of 5%, 10% and 20%.

TABLE 11.2.2 CALCULATION OF NET SALES VALUE AND CONSEQUENT RETAIL PRICES REQUIRED TO OBTAIN ADEQUATE RETURN ON CAPITAL EMPLOYED

Return on Capital Employed	2%	5%	10%	20%
Capital Employed $US'000	6513	6513	6513	6513
% Increase in Net Sales Value		4	10	23

	Total $US'000	% NSV	Total $US'000	% NSV	Total $US'000	% NSV	Total $US'000	% NSV
Net Sales Value	7079	100	7335	100	7786	100	8689	100
Agent and Distribution	(644)	(9)	(667)	(9)	(708)	(9)	(790)	(9)
Landed Price	6435	91	6668	91	7078	91	7899	91
Duty	(1328)	(19)	(1376)	(19)	(1461)	(19)	(1630)	(19)
CIF Before Duty	5107	72	5292	72	5618	72	6269	72
Prime Cost	(3081)	(44)	(3081)	(42)	(3081)	(40)	(3081)	(35)
Gross Profit after duty	2026	29	2026	28	2026	26	2026	23
Shipping	(372	(5)	(372)	(5)	(372)	(5)	(372)	(4)
Working Capital	(386	(5)	(386)	(5)	(386)	(5)	(386)	(4)
Depreciation Equipment	(153	(2)	(153)	(2)	(153)	(2)	(153)	(2)
Depreciation Building	(56	(1)	(56)	(1)	(56)	(1)	(56)	(1)
Management Expenses	(918)	13	(918)	13	(918)	12	(918)	(11)
Surplus after Expenses	141	2	326	4	651	8	1303	15
Retail Price Required in pence								
Boeuf Bourguignonne	197		204		217		242	
Steak Chasseur	197		204		217		242	
Beef Kebabs	252		261		277		309	

Table 11.12.2 indicates that the price of Boeuf Bourguignonne and Steak Chasseur would have to be increased from 173p per unit (as used in the initial calculation based on the Market Survey) to 217p per unit (21%) to

obtain a return on Capital Employed of 10%. This may just be acceptable. The price of the Beef Kebabs however would need to be increased tc 277p per unit nearly £1 more expensive than on other frozen meat products and this would almost certainly exclude the product from the market.

At 20% return on Capital Employed the product would be too expensive. It is therefore essential that before progressing this project samples of the products are shown to the trade in the UK and consumer attitudes are determined as discussed in paragraph 10.3.

UNITED NATIONS

UNITED NATIONS INDUSTRIAL DEVELOPMENT ORGANIZATION

UNIDO November 1985

Request from the Government of Uruguay

for Special Industrial Services

JOB DESCRIPTION

SI/URU/85/801/11-03/31.7.C

Post title Meat Industry Economist

Duration 2 man-months

Date required As soon as possible

Duty station Montevideo, with possibility of travel within the country

Purpose of project To identify the potential varieties of processed meat products (non-aphthousic - free from foot and mouth virus) to be developed for export during the forthcoming years, based on the availability of raw materials and the demand of the foreign markets, to determine the technology to be applied and to design meat product samples for the meat processing lines.

Duties

In close co-operation with the Ministry of Agriculture and the Administration of the slaughterhouses concerned, the expert will be expected to carry out the following duties:

- To study the characteristics of the demand of the consumer market at which the new varieties of products will be aimed;
- To identify new meat products for which there would be a big demand on the foreign markets;
- To study the availability of raw material resources;
- To elaborate standard instructions for the processing of the meat products;
- To evaluate economically the possibilities of the new meat processing technology at an industrial level and provide recommendations thereof;

The expert will also be expected to prepare a final report, setting out the findings of the mission and recommendations to the Government on further action which might be taken.

Qualifications

Highly qualified Meat Industrial Economist with extensive practical experience in economic evaluation, production cost analysis, budgeting, cost accounting and other financial matters related to the operation of meat industry plants and the international meat products market.

Language

Spanish, English.

Background information

The present situation and the short-term prospectives for Uruguay to sell its meat on international markets are very critical. The differences existing nowadays between the prices achieved for aphthousic and non-aphthousic meat have lately increased considerably This means that - while the countries producing meat free of aphthous obtain US$ 1,780 FOB for the meat marufactured without bones, Uruguay is having problems in getting US$ 600 FOB for similar merchandise. Taking the average of the last five years, the Uruguayan meat exports show that only 2 % of what has been embarked on has been commercializ to countries free of aphthous, under the form of processed meat. At the same time, throughout the years, meat without bones of up to 70 % of the total of the system of draw-back exports has been sold to Braz. to be industrialized there and re-exported by Brazil to non-aphthousi markets, with a corresponding loss of the value added.

Facing this situation and foreseeing that in future years the EEC wil continue its policy of subsidizing and intervening actively in the exports of this product to markets which were traditionally supplied by Uruguay, an imaginative and aggressive strategy must be adopted in order that the exports of Uruguayan meat to aphthous-free markets be increased.

Presently the Uruguayan cold-storage industry is suffering a considerab deficit in the industrialization of processed meats. Only two of the already working 35 plants have the proper installations for the processing of corned beef and only one for cooked/frozen meat. This limi the possibilities of obtaining access to the countries of the non-aphthousic circuit, which apply the theory of "zero-risk" (USA, Canad Japan, Scandinavian countries, Korea, etc.) to a volume of only 2 - 4 of the total of the meat exports of the country.

In the short run the Uruguayan Government has decided to give an impulse to the construction of centres for processed meat where technology is applied which guarantees the destruction of the aphthousic virus and which would allow Uruguay to compete in the non-aphthousic markets with a minor cost of industrial reconversion and avoiding idle capacities of the plants by an adequate planning strategy. for this reason it is necessary to clearly determine which varieties of products will have to be industrialized in the forthcoming years according to themarket demand, taking into consideratio products such as cooked and frozen veal, sterilized meat products in the different kinds of packaging, oriented towards retail sale or the industrial processing market, dehydrated meat, ready-cooked dishes, etc.

In this sense, the Government estimates to reach within a three year period a minimal structure of 50 % of processed meat with the consequent benefit of a major employment of the value added to the products, a diversification of the offers and with the possibility of obtaining better prices abroad.

To this effect the central plants for processed meat will have the flexibility which will allow the production of varieties of products which will be better suited for the requirements of the market.

Customs Duties, Import Levy and MCA Coefficients

Common Customs Tariff Number	Category	Customs Duty (%)	Import Levy Coefficient (a)	MCA Coefficient (a)
01.02	Live cattle:			
	A Domestic species:			
	I Purebred breeding animals	-	na	na
	II Other:			
	a) Not yet having any permanent teeth, of a weight not less than 350 kg but not more than 450 kg in the case of male animals, or of not less than 320 kg but not more than 420 kg in the case of female animals	16	1.00	1.00
	b) Other	16	1.00	1.00
02.01	Meat and edible offals of the animals falling within heading No 01.01 to 01.04, fresh, chilled or frozen:			
	A Meat:			
	II Of cattle:			
	a) Fresh or chilled:			
	1 Carcases, half-carcases or 'compensated' quarters	20	1.90	1.90
	2 Separated or unseparated forequarters	20		1.52
	3 Separated or unseparated hindquarters	20	2.28	2.28
	4 Other:			
	aa) Bone-in cuts	20	2..	1.52
	bb) Boneless cuts	20	3 26	2.60
	b) Frozen:			
	1 Carcases, half-carcases or 'compensated' quarters	20	1.00(b)	1.00(b)
	2 Separated or unseparated forequarters	20	0.80(b)	0.80(b)
	3 Separated or unseparated hindquarters	20	1.25(b)	1.25(b)
	4 Other:			
	aa) Bone-in cuts	20	1.50(b)	0.80(b)
	bb) Boneless cuts:			
	11 Forequarters, whole or cut into a maximum of five pieces, each quarter being in a single block; 'compensated' quarters in two blocks, one of which contains the forequarters, whole or cut into a maximum of five pieces and the other, the hindquarter, excluding the tenderloin, in one piece	20	1.25(b)	1.25(b)

	22 Crop, chuck and blade and brisket cuts*	20	1.25(b)	1.25(b)
	33 Other	20	1.72(b)	1.25(b)
B Offals:				
II Other:				
b) Of cattle:				
1 Livers		7	na	na
2 Other		4	na	na
02.06	Meat and edible meat offals (except poultry liver), salted, in brine, dried or smoked:			
C Other:				
1 Of cattle:				
a) Meat:				
1 Bone-in		24	2.85	1.52
2 Boneless		24	3.26	2.17
b) Offals		22	na	na
15.02	Fats of beef or veal, rendered or unrendered, including 'premier jus'			
B Other:		6	na	na
16.02	Other prepared or preserved meat or meat offal:			
B Other:				
III Other:				
1 Containing beef and veal or offal:				
aa)	Uncooked: more than 80% beef, excl. offal and fat	20	3.26	2.17
	60%-80% beef	20	3.26	1.30
	40%-60% beef	20	3.26	0.87
bb)	Other	26	na	na

(a) The coefficients quoted are applied to the amounts applicable to live cattle except in the case of frozen beef and veal.

(b) To convert to the frozen beef carcase figure from the amount applicable to live cattle, a coefficient of 1.69 is used. The figures for the other categories in the frozen beef sector are then derived from the frozen beef carcase by means of the coefficients set out in this table.

* Entry under this subheading is subject to the production of a certificate issued on conditions laid down by the competent authorities of the European Communities.

na Not applicable.

Source: MLC European Handbook

PRICE REPORTING

The Guide Price

This is the focal point for the various mechanisms within the beef and veal regime. It was originally considered that the guide price should be set at a level desirable for producers to obtain under normal market conditions. It was intended to take account of other related factors such as future trends in beef and veal production and consumption as well as a consideration of the market for milk and dairy products. However, the relatively large price increases in the late 1970s and early 80s resulted in a level which was generally considered unrealistic, and its function is now more academic. The inaugurating legislation requires that the guide price is fixed annually to apply for the 12-month period commencing the first Monday in April. In practice, the guide price is settled in the context of the annual EEC farm price negotiations and only three times since 1973 has the new marketing year come into operation at the beginning of April.

The EEC guide price for the 1986/87 marketing year (Council Regulation 1345/86) is:

205.02 ECU/100 kg lw, 130.32p/kg lw*

* Converted at the UK green rate of £1 = 1.57325 ECU.

The Intervention Price

This price is normally set on an annual basis in conjunction with the guide price. At present the intervention price is fixed at 90 per cent of the guide price. It is not, however, the price at which beef is bought into intervention.

The intervention price is used in the calculation of Monetary Compensatory Amounts (MCAs)

The intervention price for the 1986/87 marketing year (Council Regulation 1345/86) is:

184.52 ECU/100 kg lw, 117.29p/kg lw*

* Converted at the UK green rate of £1 = 1.57325 ECU.

The Reference Price

This is the official weekly EEC market price for fat cattle. It is used to assess the state of the market and, therefore, helps to indicate when measures should be taken to strengthen the market. For example, at the end of July 1984 the EEC cattle reference price was at only 72 per cent of the guide price, its lowest level ever compared with the guide price.

The reference price is calculated on the basis of the weighted average of cattle prices recorded on representative markets in each member state. On a national basis prices are recorded for all types of cattle reflecting the national production characteristics in the country concerned. Member states collect prices according to their national grading schemes.

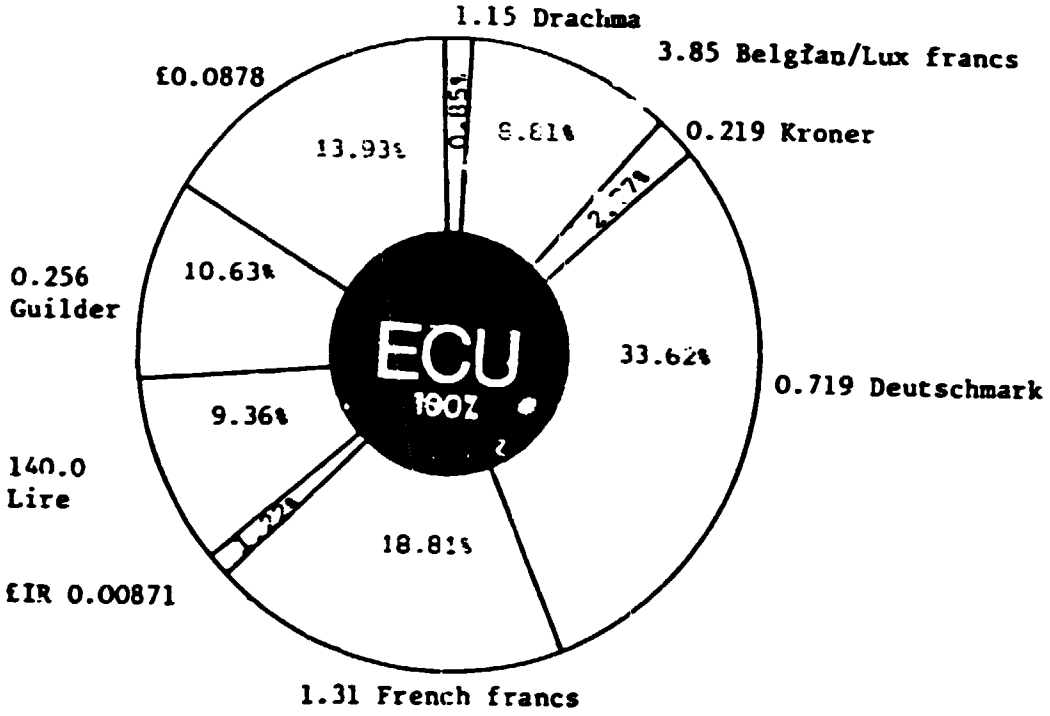
Source: MLC European Handbook

THE EUROPEAN MONETARY SYSTEM (EMS)

The European Currency Unit

The European Currency Unit or ECU is the basis of the EMS and is a 'basket' unit the value of which is equal to the sum of defined amounts of each EEC currency including sterling (although the United Kingdom and Greece are the only EEC countries which are not members of the EMS). The current composition of the ECU is as follows:

The Composition of the ECU



The equivalent of the ECU in any currency is the sum of the equivalents of the amounts in that currency shown in the diagram above.

The dollar has been chosen as giving the most representative rate in all financial centres and rates are taken from the exchange markets at 2.30 pm. These rates are communicated by the National Bank of Belgium to the EEC Commission which uses them to calculate an ECU equivalent, first in dollars and then in the currencies of the member states.

At the time of adoption of the EMS the ECU was lower in value than the previous unit of account which was related to the value of gold. A conversion rate of 1.208953 was used to convert support prices from units of account into ECUs to avoid a sudden fall in the common price level and hence a redistribution of MCAs.

APPENDIX 4

THE SYSTEM OF MONETARY COMPENSATORY AMOUNTS (MCAs)

Green Rates

All EEC agricultural prices are set in ECU and to convert them into national currencies green rates of exchange are used. Green rates can be devalued/revalued by the EEC Commission at any time but usually any changes are effective from the commencement of a new marketing year. There were changes to most member states' green rates in the 1986/87 farm price agreements, resulting in either the elimination or reduction of MCAs.

GREEN RATES FOR BEEF, VEAL AND SHEEP MEAT TO BE APPLIED IN 1986/87

	w.e.f 1 July '86
	1 ECU =
Belg/Lux	47.3310 Bfr
France	7.20131 Fr
Denmark	8.58163 Kr
Italy	1.554 Lire
Greece	116.673 Dra
Spain	147.208 Pta
Portugal	153.283 Esc

West Germany

2.38516 Dm

Netherlands

2.68749 Gld

United Kingdom £1=

1.57325 ECU

Irish Republic £IR=

	w.e.f. 22 Sep '86
1.29430 ECU	1.22286 ECU

The MCA System

The fundamentals of the MCA system are laid down in Regulation 1677/85 and the detailed rules in Regulations 3153/85 (calculation of MCAs) and 3154/85 (administration of MCAs)

The main purpose of MCAs is to protect the CAP intervention system through the prevention of distortions in trade, by offsetting any advantages or disadvantages in trading between member states as a result of appreciating or depreciating currencies.

The MCA system currently applies to trade in beef.

In respect of basic products for which an EEC intervention price is set, the MCA is normally calculated by applying the MCA percentage to the intervention price (in the case of beef and veal the MCA percentage is applied to 85 per cent of the intervention price).

Once the MCA for the basic product has been calculated - live cattle in the case of the beef sector
MCAs for the various cuts of meat are derived by applying a set of coefficients. These coefficients reflect the value of the cut concerned in relation to the basic product. For example, the coefficient for fresh/chilled boneless beef cuts is 2.60

Assuming a +2.0 per cent UK MCA the following amounts shown below would be applied.

Example: Calculation of Monetary Compensatory Amounts

	85% of Intervention Price ECU/100 kg	÷	Green Rate (£1=1.57325 ECU) p/kg	x	MCA % (+ 2.0%) p/kg	Coefficient	UK MCA p/kg
Live cattle	156.84		99.69172		1.9938	1.00	1.994
F/c boneless cuts	156.84		99.69172		1.9938	2.60	5.184

Details of the coefficient used in the calculation of beef and veal and pig meat MCAs are to be found in Volume I, Sections 3 and 5.

The MCA applied may be positive or negative, depending on the relative strength or weakness of the member states' currency.

Positive MCAs are applied by member states in which green rates are below market rates (ie prices are above the common price level) indicating a strong or appreciating currency. The MCA is applied as a levy on imports and a refund on exports.

Negative MCAs are applied by member states in which green rates are above market rates (ie prices are below the common price level) indicating a weak or depreciating currency. The MCA is applied as a refund on imports and a levy on exports.

In addition, MCAs can be described as being either fixed or variable.

Fixed MCAs are applied in all member states (except the UK, Italy, Greece, Portugal and Spain) which observe the narrow margins of fluctuation under the EMS (see The Exchange Rate Mechanism). The MCA percentage is calculated from the percentage difference between the green rate and the central rate.

Fixed MCAs will only change if either the green rate or the central rate is changed. With effect from 12 May, for example, the French green rate for beef and veal was devalued by 2.86 per cent resulting in a reduced negative MCA.

Example: Reduction in French MCA as a Result of Green Rate Change

	Prior to 12 May '86	With effect from 12 May '86
Agricultural Central Rate	7.54545	7.54545
Green Rate	7.00089	7.20131
Percentage Difference $(1 - \frac{\text{Central Rate}}{\text{Green Rate}}) \times 100$	- 7.8	- 4.8
% MCA Applied*	- 6.3	- 3.3

* see Application of Franchise

Variable MCAs may apply in the UK, Italy, Greece and Spain which do not observe the narrow fluctuations under the EMS. The MCA is based on the percentage difference between the green rate and the market rate of exchange against the ECU over a five-day reference period. (Or fewer days when exchange rates are not quoted as a result of bank holidays).

On the next page is an example of the calculation of the UK beef and veal and pig meat MCAs for week commencing 18 August 1986 with a reference period for exchange rates of 6 - 12 August.

In the example, the sterling market rate against each of the six EEC currencies is derived from the exchange rate of member states' currencies against the ECU (1). These are calculated daily by the EEC Commission on the basis of quotations on the foreign exchange markets taken at 2.30 pm (British Time). For the calculation of the MCA the daily market rates over a five-working-day period Wednesday - Tuesday (in this case Wednesday 6 August - Tuesday 12 August 1986) are collected and averaged (2). This average market rate is then divided into the central rate relationship of the pound against the six EMS currencies (3). (The central rate relationship is equal to the agricultural central rate of each EMS currency multiplied by the UK green rate. Since there is currently a different green rate for beef and veal than for pig meat, two sets of central rate relationships are used in the MCA calculations). (3) ÷ (2) provides the percentage appreciation or depreciation of the pound against each of the six currencies (4). The unweighted average of these figures, rounded to one decimal place, gives the gross MCA percentage or new rate applicable from the following Monday (in this case from 12 May 1986) (5).

Application of Franchise

EEC Regulation 1677/85 Article 5(3) states that an arbitrary deduction - called a **franchise** or a **neutral margin** - must be applied to the gross MCA percentage to obtain the actual MCA percentage applied. In the case of positive MCAs a franchise of one percentage point, and in the case of negative MCAs a franchise of 1.5 percentage points, is deducted from the gross MCA.

Example: Calculation of the UK MCA for Beef and Veal for Week Commencing 18 August 1986

	Belgium	Denmark	Germany	France	Netherlands	Irish Republic
Central rate relationship £1=(3)	74.4629	13.5009	3.64566	11.8708	4.10766	1.32121
Daily Market rates (1)						
Wed	63.83939	11.55405	3.08509	10.01025	3.47615	1.10754
Thurs	63.11229	11.42000	3.04853	9.90126	3.43529	1.09506
Fri	63.29093	11.45376	3.05680	9.92757	3.44425	1.09862
Mon	62.86771	11.37306	3.03656	9.86822	3.42144	1.09526
Tues	63.61981	11.50454	3.07382	9.98989	3.46397	1.10668
Average 6 - 12 August(2)	63.34603	11.46108	3.06016	9.93944	3.44822	1.10063

% depreciation/appreciation of £ against its central rate relationship (3) : (2) = (4)

- 17.349	- 17.798	- 19.133	- 19.431	- 19.124	- 20.041

Gross MCA - 18.846 Franchise deduction - 1.5 Net UK MCA % - 17.3

Trade With non-EEC Countries

In trade with non-member states a levy or refund is applied at a level equal or close to the difference between a common EEC price and the world price.

EEC livestock prices are above world prices and in order to be competitive on world markets a Community exporter would have to lower his selling price. By way of compensation the EEC pays the exporter a subsidy for doing so - **export refund.** Conversely, to import meat from a non-EEC country at the world price would mean buying meat at a cost lower than can be domestically produced and would hence weaken prices on the domestic market. As a result the Commission applies a levy on meat imports - **import levy.**

However, because of different market prices and farm support in the different member states, levies on imports from non-EEC countries and refunds on exports to them have to be adjusted. This is done by multiplying the import levy or export refund by a **monetary coefficient.** In countries with a positive MCA the monetary coefficient is equal to:

$$\frac{100 - \text{MCA\%}}{100}$$

and in countries with a negative MCA the monetary coefficient is equal to:

$$\frac{100 + \text{MCA\%}}{100}$$

Positive MCAs are then added to the EEC export refund and import levy and negative MCAs are deducted from the refund or levy. An example of the effect of a change in the UK MCA from positive to negative on export refunds and import levies is given below. The example assumes trade in frozen beef carcases with North Africa.

Example: Effect of a Positive or Negative UK MCA on Non-EEC Trade

EEC Export Refund ECU/100 kg	÷ Green Rate p/kg	x Monetary Coefficient	+MCA Amount	UK Net Refund p/kg
106.00	67.376	66.702 (a)	1.894	68.596
106.00	67.376	70.677 (b)	9.281	61.396
EEC Import Levy ECU/100 kg	**÷ Green Rate p/kg**	**x Monetary Coefficient**	**+MCA Amount**	**UK Net Levy p/kg**
178.791	113.64	112.504 (a)	1.894	114.398
178.791	113.64	119.208 (b)	9.281	109.927

a) MCA = +1.0%, Monetary Coefficient 0.990
b) MCA = -4.9%, Monetary Coefficient 1.049

Source: MLC European Handbook

25. 10. 84 Official Journal of the European Communities No C 286/5

II

(Preparatory Acts)

COMMISSION

Proposal for a Council Directive on public health and animal health problems affecting the importation of meat products from third countries

COM(84) 530 final

(Submitted by the Commission to the Council on 10 October 1984)

(84/C 286/04)

THE COUNCIL OF THE EUROPEAN COMMUNITIES,

Having regard to the Treaty establishing the European Economic Community, and in particular Article 43 thereof,

Having regard to the proposal from the Commission,

Having regard to the opinion of the European Parliament,

Having regard to the opinion of the Economic and Social Committee,

Whereas the Community has made arrangements concerning intra-Community trade in meat products as regards health requirements by Council Directive 77/99/EEC (1), as last amended by Directive ...;

Whereas the Community has made arrangements concerning intra-Community trade in meat products as regards animal health requirements by Council Directive 80/215/EEC (2), as last amended by Directive ...;

Whereas there is a need for Community arrangements applicable to imports of meat products from third countries;

Whereas, pending the entry into force of Community rules on imports of poultrymeat from third countries, poultrymeat products should be excluded from the scope of this Directive;

Whereas in this connection the animal health conditions subject to which the Member States authorize importation of meat products should be laid down;

Whereas those conditions should be drawn up in the light of the animal health situation in third countries or parts thereof;

Whereas Council Directive 72/462/EEC (3), as last amended by Directive ..., laid down the animal health conditions applicable to imports of fresh meat from certain third countries or parts thereof; whereas those animal health criteria may be applied to imports of meat products;

Whereas Directive 72/462/EEC does not take into consideration the animal health situation in certain third countries or parts thereof; whereas additional animal health conditions should therefore be laid down for imports of meat products from these third countries or parts thereof in order to avoid the introduction of certain diseases into the Community;

Whereas the aim should be not to authorize imports of meat products from countries in which there are cases of contagious animal diseases from which the Community is free and which therefore present a danger to Community livestock or from countries which have been free from such diseases for too short a time;

Whereas there are meat treatments available, however, which can eliminate the danger of contamination and which thus offer the possibility of authorizing imports of certain categories of meat products from those third countries;

Whereas it should be laid down that fresh meat intended for the manufacture of meat products must come from approved establishments; whereas such establishments must satisfy the conditions laid down in Directive 72/462/EEC;

(1) OJ No L 26, 31. 1. 1977, p. 85.
(2) OJ No L 47, 21. 2. 1980, p. 4.

(3) OJ No L 302, 31. 12. 1972, p. 28.

Whereas it should be laid down that meat products must come from approved establishments, whereas those establishments must satisfy the conditions laid down in Directive 77/99/EEC;

Whereas the health standards to which meat products and meat intended for the preparation of meat products must conform should also be laid down;

Whereas, in order to check that the provisions of this Directive are observed by the exporting third country, a system of inspection on the spot by Community veterinary experts should be established;

Whereas the production of an animal health certificate and a public health certificate drawn up by an official veterinarian in the exporting third country is the most appropriate means of ensuring that a consignment of meat products may be admitted for importation;

Whereas meat products should be subject, whatever the customs procedure under which they are declared, to a check on the accompanying documents on arrival on Community territory in order to prevent the forwarding of meat products which are not accompanied by the requisite certificates, which come from a third country or part thereof from which importation is not authorized or which are not accompanied by the proper certificates;

Whereas, to check that the provisions of this Directive are observed by the exporting third country and to prevent importation of dangerous meat products, Member States should ensure that each consignment of meat products undergoes a physical inspection relating to both public health and animal health aspects before being released for consumption on the territory of the Community; whereas implementing rules to ensure that such import inspections are carried out in a uniform way should be adopted in accordance with a procedure involving close cooperation between the Commission and the Member States;

Whereas checks on meat products are carried out in the general interest of the Community; whereas it should therefore be laid down that they are to be undertaken at posts approved on the basis of Community criteria and in accordance with a Community procedure;

Whereas each Member State must be free to halt immediately imports from a third country where a contagious animal disease breaks out or spreads which is likely to endanger public or animal health; whereas in such cases, without prejudice to any amendments to the list of countries and establishments authorized to export to the Community, the attitude of the Member States to the third country in question must be coordinated without delay,

HAS ADOPTED THIS DIRECTIVE:

CHAPTER I

General provisions

Article 1

1. This Directive lays down the conditions as regards public health and animal health applicable to the importation of meat products from third countries with the exception of those applicable to the importation of meat products which are prepared wholly or partly from fresh poultrymeat or from meat products containing poultrymeat.

2. This Directive shall not apply to imports of:

(a) meat products forming part of travellers' personal luggage and intended for their personal consumption, in so far as the quantity transported does not exceed 1 kilogram per person and provided that the meat products come from a third country from which importation is not prohibited under Article 7;

(b) meat products sent as small packages to private persons, provided that such meat products are not imported by way of trade, that the quantity does not exceed 1 kilogram and that the meat products come from a third country from which importation is not prohibited under Article 7;

(c) meat products for consumption by the crew and passengers carried on means of transport operating internationally. Where meat products of this kind or kitchen waste arising therefrom are unloaded, they must be destroyed. It is not, however, necessary to destroy meat products when they are transferred, directly or after being placed provisionally under customs supervision, from one means of transport to another.

Article 2

For the purposes of this Directive, the definitions given in Article 2 of Directive 72/462/EEC and in Article 2 of Directive 77/99/EEC shall apply as necessary.

Article 3

1. In accordance with the procedure laid down in Article 19, one or more lists shall be drawn up of the establishments authorized for the importation of meat products. The list or lists may be amended or supplemented in accordance with the procedure laid down in Article 18.

2. In deciding whether an establishment may appear on one of the lists referred to in paragraph 1, particular account shall be taken of:

(a) the assurances which the third country can offer with regard to compliance with this Directive;

(b) compliance in each particular case with the relevant provisions of this Directive and with Annex A to Directive 77/99/EEC;

(c) the organization of the meat product inspection service or services of the third country or part of that country, the powers of such service or services and the supervision to which it/they is/are subject.

3. An establishment may not appear on the list or lists provided for in paragraph 1 unless it is situated in one of the third countries or parts thereof referred to in Articles 4, 5 or 6 and has, in addition, been officially approved by the competent authorities of the third country for exporting to the Community. Such approval shall be subject to observance of the following requirements:

(a) compliance with the relevant provisions of Annex A to Directive 77/99/EEC;

(b) constant supervision by an official veterinarian of the third country.

4. The list or lists referred to in paragraph 1 and any amendments thereto shall be published in the *Official Journal of the European Communities.*

CHAPTER II

Animal health conditions

Article 4

1. Member States shall authorize the importation of meat products satisfying the conditions laid down in paragraph 2 and originating on the territory or parts of the territory of third countries if imports of fresh meat from those territories or parts of territories are permitted under Directive 72/462/EEC.

2. The meat products referred to in paragraph 1 must have been produced wholly or partly from fresh meat:

(a) satisfying the requirements of Directive 72/462/EEC, and in particular Articles 14 and 15 thereof, and the animal health conditions laid down pursuant to Article 16 of that Directive;

(b) originating in a Member State and satisfying the requirements of Articles 3 and 4 of Directive 72/461/EEC.

Article 5

1. By way of derogation from Article 4, Member States shall authorize the importation of meat products satisfying the requirements laid down in paragraph 2 and originating in parts of the territory of third countries referred to under Article 4 from which imports of fresh meat are not authorized under Directive 72/462/EEC.

2. The meat products referred to in paragraph 1 must satisfy the following requirements.

(a) the meat product must have been produced wholly or partly either from fresh meat as referred to in Article 4 (2) or from fresh meat not in accordance with the requirements of Article 4 (2) originating in the processing third country and bearing the mark provided for in Annex C;

(b) to prevent any risk of transmission of contagious diseases of animals, the meat product must have undergone a heat treatment in a hermetically sealed container with an Fc value of 3,00 or more. However, other treatments may be accepted in accordance with the procedure of Article 19. For this purpose the animal health situation in both the part of the territory of the exporting third country and the different parts of the territory of the Community must be taken into account.

Article 6

1. By way of derogation from Article 4, Member States shall authorize the importation of meat products satisfying the conditions laid down in paragraph 2 and originating in third countries from which the importation of fresh meat is not authorized under Directive 72/462/EEC.

2. The meat products referred to in paragraph 1 must satisfy the conditions specified in Article 5 (2) (a). Moreover, in order to prevent any risk of transmission of contagious diseases of animals, the meat product must have undergone a heat treatment in a hermetically sealed container with an Fc value of 3,00 or more. However, other treatments may be accepted in accordance with the procedure of Article 19. For this purpose the animal health situation in

both the exporting third country and the different parts of the territory of the Community must be taken into account.

Article 7

1. Without prejudice to Articles 5 and 6, if a contagious animal disease breaks out or spreads in a third country for which a list of establishments has been drawn up in accordance with Article 3 (1) and the disease can be carried by meat products and is likely to endanger public health or the health of the livestock in one of the Member States or if any other reason connected with animal health jus'ifies it, the Member State concerned or, in accordance with the procedure of Article 18, the Commission may prohibit the importation of those products coming directly or indirectly either from the third country as a whole or from part of its territory.

2. Measures taken by the Member States under paragraph 1 and the withdrawal of such measures must be communicated immediately to the other Member States and the Commission, together with the reasons therefor.

The Standing Veterinary Committee shall meet as soon as possible after such communication and shall decide, in accordance with the procedure laid down in Article 18, whether those measures should be amended, in particular in order to ensure their coordination with measures adopted by the other Member States, or withdrawn.

If the situation referred to in paragraph 1 arises and if it appears necessary that other Member States should also apply the measures taken pursuant to that paragraph, amended where necessary in accordance with the second subparagraph, appropriate provisions shall be adopted under the procedure laid down in Article 18.

3. Resumption of importation from the third country concerned shall be authorized in accordance with the same procedure.

CHAPTER III

Public health conditions

Article 8

Member States shall not authorize importation of meat products from third countries unless the following conditions are fulfilled:

1. The fresh meat used for the production of meat products intended for export or for the meat products referred to in paragraph 3 and intended for the production of other meat products must have been obtained:

   (a) in an establishment appearing on one of the lists drawn up pursuant to Directive 72/462/EEC, or

   (b) in an establishment appearing on one of the lists drawn up pursuant to Council Directive 64/433/EEC (*), or

   (c) in an establishment situated in a third country or a part of a third country defined in Articles 5 and 6 and appearing on the list referred to in Article 10.

2. The fresh meat referred to in paragraph 1 must:

   (a) have been obtained in accordance with the relevant conditions laid down in Articles 17 and 18 of Directive 72/462/EEC or Article 3 of Directive 64/433/EEC;

   (b) fulfil the relevant conditions laid down in Chapter III of Annex A to Directive 77/99/EEC. The provisions relating to sealing referred to in Chapter XIV, point 68 of Annex I to Directive 64/433/EEC, remain applicable.

3. The meat products used for the production of other meat products must have been obtained in an establishment appearing on the list referred to in Article 3, or in an establishment appearing on one of the lists referred to in Article 6 of Directive 77/99/EEC.

Article 9

The importation of meat products coming from third countries shall be subject to the following conditions:

1. They must have been obtained in an establishment appearing on the list drawn up pursuant to Article 3 (1).

2. Such establishments must comply with the provisions of Chapter I of Annex A to Directive 77/99/EEC.

3. They must have been processed in conditions of hygiene complying with Chapter II of Annex A to Directive 77/99/EEC.

4. They must have undergone one of the treatments or a combination of the treatments provided for in Directive 77/99/EEC.

5. They must have undergone inspection by an official veterinarian in accordance with Chapter IV of Annex A to Directive 77/99/EEC.

   In carrying out such inspection, the official veterinarian may be aided by assistants reporting to him. Such assistants must:

(*) OJ No 121, 29. 7. 1964, p. 2012/64.

(a) be appointed by the central competent authority of the exporting country in accordance with the provisions in force;

(b) have received appropriate training;

(c) have a status ensuring that they are independent of those in charge of the establishments;

(d) have no power of decision concerning the final result of the inspection.

6. They must satisfy the standards laid down in Chapter V of Annex A to Directive 77/99/EEC.

7. In the event of wrapping and packaging, they must have been wrapped and packaged in accordance with Chapter VI of Annex A to Directive 77/99/EEC.

8. They must bear a public health stamp to be defined according to the procedure laid down in Article 19; the other conditions relating to marking laid down in Chapter VII of Annex A to Directive 77/99/EEC must be respected.

9. They must be stored and transported to the Community under satisfactory conditions of hygiene in accordance with Chapter IX of Annex A to Directive 77/99/EEC and handled under satisfactory conditions of hygiene; in the case of meat products which have undergone incomplete processing, the producer must, for the purposes of inspection, mark visibly and clearly on the packaging of the product the temperature at which the product must be transported and stored and the period for which it can be stored in that condition.

10. Meat products must not have been subjected to ionizing radiation, except where justified for reasons of a medical nature and where that operation is mentioned clearly on the product and on the public health certificate.

Article 10

1. In accordance with the procedure laid down in Article 19, one or more lists shall be drawn up of the establishments referred to in Article 8 (1) (c) from which third countries may obtain fresh meat for the production of meat products. The list or lists may be amended or supplemented in accordance with the procedure laid down in Article 18.

2. In deciding whether a slaughterhouse, a cutting plant or a store situated outside a slaughterhouse or plant may appear on one of the lists referred to in paragraph 1, account shall be taken in particular of:

(a) the assurances which the third country can provide with regard to compliance with Directive 72/462/EEC;

(b) the third country's regulations with regard to the administration to animals for slaughter of any substance which might affect the wholesomeness of the meat;

(c) compliance in each particular case with Directive 72/462/EEC and with Annex I to Directive 64/433/EEC.

However, derogations shall be permitted in accordance with the procedure laid down in Article 19 from the second, third and fourth indents of paragraph 13 (c) and from paragraphs 24 and 41 (c) of the said Annex I where the third country concerned provides similar guarantees; in that case, health conditions no less strict than those imposed in that Annex shall be imposed on a case-by-case basis in accordance with that procedure;

(d) the organization of the meat inspection service or services of the third country or part thereof, the powers of such service or services and the supervision to which it/they is/are subject.

3. An establishment may not appear on the list or lists provided for in paragraph 1 unless it is situated in one of the third countries or parts thereof referred to in Articles 5 and 6 and has, in addition, been officially approved for the delivery of fresh meat for the production of meat products by the competent authorities of the third country. Such approval shall be subject to observance of the following requirements:

(a) compliance with the relevant conditions of Annex I to Directive 64/433/EEC, without prejudice of the conditions for marking provided for in Article 3 (2) (a) of this Directive;

(b) constant supervision by an official veterinarian of the third country.

4. The list or lists referred to in paragraph 1 and any amendments thereto shall be published in the *Official Journal of the European Communities.*

CHAPTER IV

Inspection and certification

Article 11

1. Inspection shall be carried out on the spot by veterinary experts of the Member States and the Commission to verify whether the provisions of this Directive are being applied in practice.

2. Should an inspection carried out pursuant to this Article bring to light serious deficiencies concerning an authorized establishment, the Commission shall immediately inform the Member States thereof and

forthwith adopt a decision provisionally suspending the authorization. A final decision shall be taken according to the procedure provided for in Article 18.

3. The experts from the Member States responsible for carrying out these inspections shall be appointed by the Commission acting on a proposal from the Member States. Inspections shall be made on behalf of the Commission, which shall bear the cost of any expenditure incurred in this connection.

4. The frequency of, and the procedure for, inspections shall be determined in accordance with the procedure laid down in Article 19.

Article 12

1. Member States shall authorize importation of meat products only upon submission of an animal health certificate and a public health certificate drawn up by an official veterinarian of the exporting third country.

These certificates must:

(a) be drawn up in the official language or languages of the country of destination and in one of those of the Member State in which the import inspections provided for in Articles 13 and 14 are carried out;

(b) accompany the meat products in the original;

(c) consist of a single sheet of paper;

(d) be made out for a single consignee.

2. The animal health certificate must certify that the meat products comply with the animal health requirements laid down in this Directive and with those laid down pursuant to it with respect to the importation of meat products from the third country.

The animal health certificate must correspond to a model established in accordance with the procedure laid down in Article 19.

3. The public health certificate must correspond in presentation and content to the specimen given in Annex A and be issued on the day on which the meat products are loaded with a view to consignment to the country of destination.

4. It may be decided, in accordance with the procedure laid down in Article 19, depending on the case, that the animal health certificate and public health certificate shall consist of a single sheet.

Article 13

1. The Member States shall ensure that, upon arrival in the geographical territory of the Community, meat products are subjected without delay to a documentary inspection carried out by the competent authority, whatever the procedure under which they were declared.

2. Without prejudice to paragraph 3, the Member States shall ensure that importation is prohibited if this inspection reveals that:

(a) the meat products were not obtained in an establishment appearing on the list provided for in Article 3 (1);

(b) the fresh meat or meat products from which the meat products were manufactured in whole or in part were not obtained in an establishment referred to in Article 8;

(c) the meat products coming from a third country or part thereof referred to in Articles 5 and 6 have not undergone the processing provided for in those Articles;

(d) the certificates do not fulfil the conditions laid down in Article 12.

3. The Member States shall authorize meat products from one third country to be transported to another provided that:

(a) the person concerned supplies proof that the first third country towards which the meat products are being sent, after transit through Community territory, undertakes under no circumstances to reject or to send back to the Community the meat products the importation or transit of which it has authorized;

(b) such transport has been previously authorized by the competent authorities of the Member State in the territory of which the animal health inspection on import is carried out;

(c) such transport is carried out, without the goods being unloaded on Community territory, under the supervision of the competent authorities in vehicles or containers sealed by the competent authorities, the only handling authorized during this transport shall be that carried out respectively at the point of entry into or exit from Community territory for direct transhipment from a ship or aircraft to any other means of transport or vice versa.

4. All expenditure incurred pursuant to this Article shall be chargeable to the consignor, the consignee or their representative without compensation by the State.

Article 14

1. The Member States shall ensure that each consignment of meat products undergoes a physical inspection relating to both public health and animal health aspects before being released for consumption

on the geographical territory of the Community. Such inspection shall be carried out by an official veterinarian.

The Member States shall ensure that importers are obliged to give at least two working days' notice to the local service responsible for the import inspection at the post where the meat products are to be submitted for inspection, specifying the quantity and nature of the meat products and the time from which the inspection may be carried out.

2. The inspections referred to in paragraph 1 shall be carried out by random sampling.

3. Definitions of the inspection referred to in paragraph 1, the implementing rules necessary to ensure that such inspections are carried out in a uniform way and more particularly the methods of analysis and sampling intervals and standards shall be adopted in accordance with the procedure laid down in Article 19.

4. The Member States shall prohibit the release for consumption of meat products if the inspections provided for in paragraph 1 have shown that:

— the meat products are not suitable for human consumption,

— the conditions laid down in this Directive have not been fulfilled.

5. If the meat products cannot be imported they must be returned, unless this is contrary to animal or public health considerations.

If it is impossible to return the meat products, they must be destroyed in the territory of the Member State in which the inspections have taken place.

By way of derogation from the first and second subparagraphs, and if the importer or his representative so requests, the Member State carrying out the animal health and public health inspections may authorize the entry of the meat products for uses other than human consumption provided that there is no danger for humans or for animals and that the products come from a third country from which importation is not prohibited under Article 7. These meat products may not leave the territory of that Member State, which must verify the final destination of the meat products.

6. In all cases, after the inspections referred to in paragraph 1, the certificates must be endorsed so as to indicate clearly the use authorized for the meat products.

Article 15

1. In accordance with the procedure laid down in Article 19, the Commission shall lay down guidelines concerning the approval of inspection posts for the importation of meat products.

2. The Member States shall draw up and communicate to the Commission lists of the inspection posts complying with the guidelines referred to in paragraph 1. The inspection posts must be approved in accordance with the procedure laid down in Article 19.

3. Inspections shall be carried out under the supervision of the official department. Responsibility for inspection shall be assumed by an official veterinarian. The official responsible may be aided in the execution of the purely practical work by assistants specially trained for this purpose.

The rules governing such assistance shall be drawn up in accordance with the procedure laid down in Article 19.

4. Veterinary experts from the Member States and the Commission shall verify that the facilities at the approved inspection posts comply with the conditions of this Article and that inspections are carried out in accordance with this Directive.

These experts must be nationals of a Member State other than the Member State in which the post to be checked is located.

Detailed rules for the application of the first and second subparagraphs and in particular the appointment of experts and the verification procedures, shall be determined in accordance with the procedure laid down in Article 19.

All expenditure incurred in application of the first subparagraph shall be borne by the Community.

Article 16

The meat products of each consignement authorized for circulation in the Community by a Member State on the basis of the inspections referred to in Articles 13 and 14 must, before being forwarded to the country of destination, be covered by a certificate corresponding, in presentation and content, to the specimen given in Annex B.

This certificate must:

(a) be drawn up by the official veterinarian at the inspection post or at the place of storage;

(b) be issued on the day of loading for consignment of the meat products to the country of destination;

(c) be drawn up in the language(s) of the country of destination;

(d) accompany the consignment of meat products, in the original.

Article 17

All expenditure incurred as a result of the application of Articles 13 and 14, and in particular the cost of inspection of the meat products, storage costs and any costs of destroying the meat products shall be chargeable to the consignor, the consignee or their representative without compensation by the State.

CHAPTER V

Final provisions

Article 18

1. Where the procedure laid down in this Article is to be used, the matter shall without delay be referred by the chairman, either on his initiative or at the request of a Member State, to the Standing Veterinary Committee hereinafter referred to as 'the Committee', set up by the Council Decision of 15 October 1968.

2. Within the Committee, the votes of Member States shall be weighted as provided in Article 148 of the Treaty. The chairman shall not vote.

3. The representative of the Commission shall submit a draft of the measures to be adopted. The Committee shall deliver its opinion on such measures within two days. Opinions shall be delivered by a majority of 45 votes.

4. The Commission shall adopt the measures and apply them immediately where they are in accordance with the opinion of the Committee. Where they are not in accordance with the opinion of the Committee or if no opinion is delivered, the Commission shall without delay propose to the Council the measures to be adopted. The Council shall adopt the measures by a qualified majority.

If within 15 working days from the date on which a matter was referred to it, the Council has not adopted any measures, the Commission shall adopt the proposed measures and implement them immediately, save where the Council has decided against these measures by a simple majority.

Article 19

1. Where the procedure laid down in this Article is to be followed, the chairman shall without delay refer the matter, either on his own initiative or at the request of a Member State, to the Committee.

2. Within the Committee, the votes of Member States shall be weighted as provided for in Article 148 of the Treaty. The chairman shall not vote.

3. The Commission representative shall submit a draft of the measures to be adopted. The Committee shall deliver its opinion on such measures within a period to be determined by the chairman in keeping with the urgency of the question submitted for examination. Opinions shall be delivered by a majority of 45 votes.

4. The Commission shall adopt the measures and shall apply them immediately where they are in accordance with the opinion of the Committee. Where they are not in accordance with the opinion of the Committee or if no opinion is delivered, the Commission shall without delay propose to the Council the measures to be adopted. The Council shall adopt the measures by a qualified majority.

If, within three months from the date on which the proposal was submitted to it, the Council has not adopted any measures, the Commission shall adopt the proposed measures and apply them immediately, save where the Council has decided against these measures by a simple majority.

Article 20

The Member States shall bring into force the laws, regulations and administrative provisions necessary to comply with this Directive by 1 January 1986 at the latest. They shall forthwith inform the Commission thereof.

Article 21

This Directive is addressed to the Member States.

ANNEX A

SPECIMEN PUBLIC HEALTH CERTIFICATE FOR MEAT PRODUCTS (*)

intended for _____
(name of EEC Member State)

No _____ (*)

Exporting country _____

Ministry _____

Department _____

Ref. (*) _____

I. Identification of meat products

Meat products manufactured with meat from _____
(animal species)

Nature of meat products (*) _____

Nature of packaging _____

Number of individual items or packages _____

Storage and transport temperature (*) _____

Storage life (*) _____

Net weight _____

II. Origin of meat products

Address(es) and veterinary approval number(s) of the approved establishment(s) from which the meat or the meat products used for the production of meat products have been obtained _____

_____

Address(es) and veterinary approval number(s) of the approved processing establishment(s) _____

_____

Address(es) and veterinary approval number(s) of the approved store(s) _____

_____

III. Destination of meat products

The meat products will be sent from: _____
(place of loading)

to: _____
(country and place of destination)

by the following means of transport (*) _____

Name and address of consignor: _____

_____

Name and address of consignee: _____

_____

APPENDIX 6

CONVERSION COEFICIENT CARCASE TO SHIPPED WEIGHT

PRODUCT	COEFICIENT
CHILLED BEEF	
Carcase, sides, quarters and cuts with bone	1.020
Boneless cuts	1.595
FROZEN BEEF	
Carcase, sides, quarters and cuts with bones	1.031
Boneless cuts	1.595
Boneless forequarter of steer meat	1.595
Bone in manufacture	1.031
Boneless manufacture in meat	1.759
Corned beef	2.932
Cooked frozen beef	2.500
Canned cuts in brine	1.595

URUGUAY : EXPORTS OF REFRIGERATED BEEF BY DESTINATION

(Toneladas peso embarque)

DESTINO	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986 1/
Alemania Federal	14.994	6.760	10.684	9.543	2.774	5.050	7.583	1.675	2.506	3.816	2.621	5.740	5.033	3.624	3.065	2.339	1.271
Bélgica	1.524	2.049	1.537	2.596	746	235	136	100	537	392	910	1.024	1.268	1.071	453	273	203
Francia	2.138	4.276	19.533	8.392	1.350	3.560	10.727	2.815	1.231	731	308	655	1.408	1.100	771	1.073	1.366
Grecia 2/	-	-	-	-	-	-	-	-	-	-	-	1.996	1.800	1.063	1.868	1.446	752
Italia	18.249	19.763	11.088	13.363	3.137	7.761	10.463	2.180	2.805	1.004	4.728	5.495	3.045	2.276	1.061	1.694	753
Países Bajos	8.699	5.135	2.478	2.650	584	1.664	2.364	554	1.111	1.663	1.964	3.405	4.062	2.985	1.866	1.918	1.654
Reino Unido	-	-	-	-	-	495	304	266	745	210	612	3.188	3.997	8.251	8.554	11.632	7.251
España 3/	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	315
Portugal 4/	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Subtotal C.E.E.	45.624	37.550	44.[illegible]	37.044	8.591	15.742	32.334	7.598	9.015	7.816	11.643	21.[illegible]	21.266	20.360	17.71[illegible]	13.541	13.56[illegible]
Grecia 2/	12.[illegible]	11.045	5.210	2.166	7.666	6.963	16.345	3.033	5.[illegible]	3.098	6.677	-	-	-	-	-	-
Austria	-	33	744	787	-	366	1.816	208	53	-	-	632	4.283	1.305	1.019	-	-
España 3/ y 5/	12.643	5.956	23.142	31.591	15.868	4.164	21.057	7.409	1.763	4.535	1.524	3.472	1.113	768	853	3.343	-
Islas Canarias	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3.737
Portugal 4/	530	2.519	7.577	4.825	2.537	1.163	8.230	19.890	740	1.790	1.479	-	20	-	-	40	-
Suiza	345	336	1.123	295	2.409	1.700	151	58	131	80	293	759	1.379	941	10	17	5
Alemania Democr.	26.654	1.417	5.467	3.240	310	-	-	6.011	-	-	-	-	2.509	-	-	-	-
Checoslovaquia	15.337	410	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Bulgaria	1.474	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Hungría	1.604	309	2.929	1.942	-	-	-	-	-	-	-	-	-	-	-	-	-
Polonia	153	-	-	10.753	341	-	-	-	-	-	-	-	-	-	-	-	-
U.R.S.S.	-	-	-	-	-	-	-	-	-	-	-	-	2.959	-	7.868	-	-
Israel	7.731	3.912	3.658	3.485	4.351	6.759	2.763	5.579	3.421	3.363	462	4.592	5.422	8.668	9.574	7.552	5.909
Arabia Saudita	-	-	-	-	-	-	-	-	-	5	819	345	46	1.459	3.371	2.455	1.677
Egipto	3.887	3.546	2.986	1.000	-	5.416	29.162	24.507	11.416	3.567	9.143	32.971	28.246	63.393	12.604	-	-
Irak	-	-	-	-	1.007	-	-	-	-	-	-	898	-	9.260	-	-	-
Kuwait	-	-	-	-	-	-	-	-	-	381	144	176	391	-	193	21	-
Irán	-	-	-	-	-	-	-	-	-	-	-	-	7.204	21.371	3.962	2.091	-
Argelia	-	-	-	-	-	-	-	-	-	-	407	1.935	-	-	-	-	-
Costa de Marfil	-	-	-	-	-	-	847	646	958	436	-	233	849	296	-	191	-
Ghana	-	-	-	-	-	2.428	3.702	4.273	3.137	1.428	743	5.152	-	2.669	-	1.287	-
Marruecos	-	-	-	-	-	-	3.073	738	-	-	-	-	-	-	-	-	39
Congo	-	-	-	-	-	-	-	558	-	-	-	-	-	379	839	-	-
Siria	-	-	-	-	-	-	411	-	-	-	-	-	-	-	-	-	-
Túnez	-	-	-	300	-	-	1.471	-	202	-	-	-	-	-	-	-	-
Zaire	-	-	-	-	-	1.211	1.904	106	217	-	-	-	-	186	115	17	-
Angola	-	-	-	-	-	-	-	-	-	-	-	-	-	1	3.367	-	3.920
Hong Kong	-	-	-	-	-	-	-	-	-	-	-	2	16	932	1.557	2.468	1.967
Singapur	-	-	-	-	-	-	-	-	-	-	-	-	-	-	921	1.259	1.695
Malasia	-	-	-	-	-	-	-	-	-	-	-	-	-	-	99	106	81
Argentina	-	-	-	-	10.536	-	-	-	-	-	566	358	13.260	4.964	57	-	-
Brasil	2.397	7.651	1.003	-	46.567	23.658	20.438	26.380	53.979	34.470	57.604	62.541	17.645	19.543	23.662	48.619	39.163
Chile	532	3.903	5.097	-	50	-	-	-	-	25	366	1.[illegible]	1.079	594	327	126	52
Perú	300	384	102	622	473	2.803	1.594	1.483	-	-	3.616	3.256	10.656	3.144	4.106	436	4.366
Otros países	425	216	-	-	-	21 6/	254 7/	-	99 8/	2	-	91 9/	706 10/	392 11/	54[illegible] 12/	1.557 13/	676 14/
TOTALES	131.472	79.743	163.537	133.332	102.577	77.480	148.542	123.501	89.157	[illegible]	94.911	159.402	112.408	157.675	92.606	[illegible]	76.0[illegible]

NOTAS: 1/ Enero-Junio; 2/ A partir de [illegible] ingresa a la C.E.E.; 3/ A partir de Enero/86 ingresa a la C.E.E.; 4/ A partir de Enero/86 ingresa a la C.E.E.; 5/ Incluye Islas Canarias hasta año 1985; 6/ Antillas Holandesas 20, Argelia 1; 7/ [illegible] 114, Nigeria 36, Suecia 4, Liberia 100; 8/ Líbano 99; 9/ Ant.Holandesas 66, Suecia 7, Líbano 7, Gabón 11; 10/ Jordania 301, Malta 215, Suecia 110; 11/ Malta 219, Suecia 173; 12/ Malta 335, Suecia 87, Gabón 70, Emiratos Arabes 31; 13/ Prov.Marítima 7[illegible], Malta 376, Jordania 335, Gabón 64, Suecia 1; 14/ Ant.Holandesas 100, Suecia 13, Malta 122, Gabón 55, Prov. Marítima 337.-