



AgEcon SEARCH
RESEARCH IN AGRICULTURAL & APPLIED ECONOMICS

The World's Largest Open Access Agricultural & Applied Economics Digital Library

This document is discoverable and free to researchers across the globe due to the work of AgEcon Search.

Help ensure our sustainability.

Give to AgEcon Search

AgEcon Search

<http://ageconsearch.umn.edu>

aesearch@umn.edu

*Papers downloaded from **AgEcon Search** may be used for non-commercial purposes and personal study only. No other use, including posting to another Internet site, is permitted without permission from the copyright owner (not AgEcon Search), or as allowed under the provisions of Fair Use, U.S. Copyright Act, Title 17 U.S.C.*

Meat - Marketing

GIANNINI FOUNDATION OF
AGRICULTURAL ECONOMICS
LIBRARY

SEP 11 1969

THE MARKET FOR NEW ZEALAND BEEF

A PRELIMINARY ASSESSMENT

by

T.J. TIER

Discussion Paper No. 51
Department of Agricultural Economics
and Farm Management,
Massey University, of *Manawatu*
Palmerston North,
NEW ZEALAND.

May 1969.

PREFACE

At the present stage of New Zealand's development the urgent necessity of producing and marketing new and improved export products for world markets has become demonstrably apparent. If the targets set by the National Development Conference are to be met a major market research programme is required. Massey University is making a determined effort to contribute to this programme by expanding its work in marketing teaching and research. This report is the first of a series to be published by the marketing group in the Department of Agricultural Economics.

The possibility of a rapid expansion of beef exports from traditional breeds is limited by the rate at which beef herds can be increased. However, there is a considerable potential for increasing beef production by utilising calves from dairy herds.

The Author, Mr. T.J. Tier, states that this work is a preliminary survey of the market prospects for New Zealand beef and does not do more than indicate the areas where detailed market research needs to be carried out. However, the hazards of relying on our traditional methods of grading, presentation and outlets for the large increase in beef production that is physically possible are clearly set out. It is suggested that New Zealand should be engaged in an intensive campaign to obtain the largest possible share of the Japanese market for beef as that market has the greatest immediate growth potential. It is essential, though, that we make a careful study of consumer requirements and be prepared to supply those requirements as closely as possible.

Before New Zealand farmers and meat processing companies can be confidently encouraged to make the big investments needed to cope with large scale beef production from the dairy herd, thorough research into market requirements and prospects should be carried out. It is hoped that the questions raised in this paper will be considered and resolved by those who must make decisions on whether or not to encourage the rapid expansion of New Zealand beef production.

A.R. Frampton,
Professor of Agricultural Economics
and Farm Management.

May 1969.
MASSEY UNIVERSITY.

THE MARKET FOR NEW ZEALAND BEEF - A PRELIMINARY ASSESSMENT

PART 1

Introduction

During the last year there have been numerous official and unofficial statements which have stressed the potential for a large increase in New Zealand's beef production by utilising calves from dairy herds. They have usually encouraged farmers to expand this form of production. Many factors outside the scope of this study will determine whether or not such a policy is likely to be more profitable to the individual farmer than other forms of farming. This paper is concerned with showing the type of information which is needed to make an informed estimate as to whether there is likely to be a continuing profitable market for any large increases in the output of this type of beef.

New Zealand farmers have, over the years, been successfully expanding agricultural production. However, it is now doubtful whether production is, or will be in the future, the main problem facing New Zealand. We know we cannot raise the standard of living in New Zealand without increasing production, but to be made effective, this production must be sold at remunerative prices. In other words, no matter how much we produce, unless people want to buy, and unless people do buy at a reasonable price, there will be no increase in the standard of living for the farming sector and the people of New Zealand as a whole.

Increased consumption can only be achieved by making goods wanted by the consumer. This raises the question of salesmanship; obviously, the more we produce the more we need people who are experts in selling. However, this is not the whole problem as it is necessary to link production with sales. This is the function of market research. Market research looks at the overall marketing problem in a broad context rather than taking each facet of the problem on its own.

Market Research in New Zealand

New Zealand has always been dependent on overseas markets. In spite of this, overseas market research has only been conducted spasmodically by universities, New Zealand-based producer organisations and individual firms. There are three factors which are currently demanding that more effort and resources be channelled into market research.

These are:-

1. The possibility of United Kingdom entry into the E.E.C. which poses a threat to what has traditionally been our major market.
2. At the same time other importing countries, in order to either conserve currency or encourage local production, or both, are restricting or prohibiting imports of many primary products.
3. The potential of Asian markets has increased to the point where it now offers opportunities for an expanded volume of sales.

Planning an Overseas Market Study

Sound principles of research apply anywhere in the world. The task may thus be broken down into the five elements of a research study. These are:-

1. Defining the problem.
2. Deciding what information could be needed to answer the problem.
3. Determining where and how to obtain the facts.
4. Getting the facts.
5. Analysing the findings and determining the solution (or alternative solutions) to the problem.

A marketing study cannot solve all problems - other complementary studies must consider the questions of production, costs, personnel, and so on. The marketing study, however, must determine what products should be sold and in what quantity, in what form they should be presented, and how they must be priced and distributed.

The objectives of the marketing study, therefore, usually are to determine -

1. A 5-10 year forecast of the total industry demand for each product under consideration.
2. Characteristics of products now on the market.
3. The number and strength of competitors (their likely volume of supply on to the market and their competitive ability).
4. The share of the market New Zealand could expect, (e.g., quota restrictions, trade preferences, etc.,) and hence what income may be obtained.
5. Standards of quality, presentation, hygiene and price which must be met to compete successfully.
6. Methods of distribution required.
7. Expenditure necessary to distribute, sell and promote successfully,

Purpose of this study

This study is aimed at illustrating the amount and type of information which is needed before a reliable estimate of the long-term potential for the profitable marketing of large quantities of beef from dairy animals can be given.

The study consists of a brief analysis of commodity sales and published market and economic data, and does not provide any findings, resulting from firsthand research into the actual markets. For this reason the study does not attempt to provide firm recommendations for the meat industry.

Limitations of time and available resources restrict the scope of the points (1) to (4) above. Thus the work may be described as a preliminary study aimed at highlighting likely areas for more intensive research.

PART 2

The World Beef Industry

This section investigates the likely future world demand for beef. The overall demand, or consumption at given prices, for beef is largely independent of production levels. Where there is an imbalance between the two, (i.e., either more is being produced than people want to consume at a given price, or vice versa) then trade may take place. This section will first consider New Zealand's trade in beef, then world production and, finally, world consumption and trade.

There are large numbers of publications dealing with the world beef industry. The more important of these have been briefly reviewed in Appendix A.

I. New Zealand's Trade in Beef

There are approximately $3\frac{3}{4}$ million dairy cattle in New Zealand and $4\frac{1}{2}$ million beef cattle. From these animals a total of 297,000 tons of beef and veal was produced in 1967, of which just over half is thought to originate from dairy herds. Production of beef and veal has only increased by about 30,000 tons since 1957.

In 1967 consumption of beef and veal in New Zealand was 283,400 tons which represented an increase of 55,000 tons over the 1957 figures.

These factors have resulted in the exportable surpluses of beef and veal remaining at around 100,000 tons over the last ten years. There have, however, been marked changes in the destination of these exports.

In the 1954/5 season New Zealand exported only 48 tons of bone-in beef and 856 tons of boneless beef to the U.S.A., the bulk of our beef exports of that season going to the United Kingdom. This situation is now reversed and in the 1966/7 season 74,000 tons of beef and veal were exported to the U.S.A. (nearly 100,000 tons were exported to the U.S.A. in the peak year of 1962/3) and only about one-tenth of this class of meat went to the U.K.

Thus, while there has been a change in the main market for New Zealand's beef exports, there has been no change in New Zealand's heavy dependence on a single market.

Potential for an increase in exports

The possibility of increasing exports from traditional beef breeds is limited by the rate at which beef herds can be expanded. Consequently, the only feasible way to obtain a rapid increase in our beef exports would be to utilise the surplus calves which originate from dairy herds and are currently slaughtered at about seven days old.

At present there are approximately $1\frac{1}{4}$ million bobby calves slaughtered per year, representing around \$5 million at the farm gate. However, almost 72 percent of these calves are straight jersey and are of little use for beef raising due to

the strong buyer resistance to the meat with yellow fat which these animals produce. Despite this, there are about 365,000 friesian or friesian cross calves which could be used for raising as beef animals. In addition, more cross-bred calves could be produced and it would also be possible to increase the proportion of friesian animals in the national herd.

Grading

Beef is graded for export according to age, quality, weight and condition. As used in connection with grading, the term G.A.Q. stands for "Good average quality" and F.A.Q. indicates "Fair average quality". (Table I).

TABLE I

<u>EXPORT BEEF GRADES</u>	<u>GRADE MARK</u>
<u>G.A.Q.</u> Ox and heifer ex bodies 640 lbs and under	1
641/720 lbs	2
721/800 lbs	3
<u>F.A.Q.</u> Ox and heifer ex bodies - all weights	X
<u>G.A.Q. Cow Beef</u> ex bodies all weights	C
<u>F.A.Q. Cow Beef</u> ex bodies all weights	CX
VEAL Prime - all weights	V
Second quality	VX

Grading is the responsibility of the New Zealand Meat Producers' Board and is standard throughout the country.

Apart from boner cows, the bulk of the beef which is at present coming forward from dairy herds is young bull or young steer beef. "Young beef", in this context, means beef slaughtered at 20 months of age before its second winter. The aim of the great majority of farmers is to avoid carrying beef cattle through their second winter.

Young bull beef must, from weaning, be managed and fed so that it grows rapidly and is well developed and well muscled at 20 months of age. If this is not achieved it may not be graded as bull beef and get the premium for that grade.

For steer beef from the dairy herd to be accepted in either the G.A.Q. or F.A.Q. grades at 20 months, it must be well reared and kept growing steadily from the outset. If it is not carrying sufficient fat to qualify for either of these two grades, it goes into the 'boner' grade at present. There is little price difference between G.A.Q. and F.A.Q. while there is a price reduction for boner grade.

Meat from the boner grade is exported to the United States, in the main, for use as manufacturing beef. Criticism from buyers that young beef is not suitable for manufacturing because of certain inferior qualities (one that is often mentioned

is the difference in water uptake between young and mature beef) has not been proven. However, the very fact that the two meats differ (or even that the overseas buyers think they differ) is probably sufficient justification for the introduction of a new grade for this class of meat.

Ideally, any grading system should be designed to reflect buyer preferences back to producers. This means that a survey of overseas trade preferences should be undertaken - and then New Zealand's grading system adjusted to meet any apparent needs. For instance, it may be that meat colour, texture, leanness, etc., are of primary importance and are, to a degree, independent of the age and sex of the animal from which the meat originates. If this were so, then the New Zealand grading system would need to be adjusted accordingly.

An example of the inadequacies of the New Zealand grading system occurs with veal where carcasses are graded on external fat of the carcass and the quantity of kidney fat present. As a consequence a proportion of dairy bred veal carcasses are down-graded to the boner grade for which the price is low, because the demand for manufacturing veal is virtually non-existent. At the same time, exporters have stated that there would be a ready market for this meat in Europe if it was exported as sides bone-in.

Other problems

A more thorough study of the market for young beef from the dairy herds may highlight other internal marketing problems which will have to be overcome before this product can be marketed in an orderly manner. Possible problems which may occur are - the availability of freezing facilities at the time of the year when these animals would be ready for slaughter, and the need for a more orderly transfer of stock from dairy farmers to sheep farmers. This latter problem may require the introduction of a forward or futures market before it can be adequately solved.

A first step in highlighting such problems would be the formation of a central market intelligence unit - either at a University or in the Department of Agriculture.

II. World Beef Production

Improved production techniques have resulted in increased cattle numbers in most countries in recent years. Examples are aerial topdressing and seeding in New Zealand, dam and road construction in Australia, and the planting of alfalfa pastures in Argentina. At the same time livestock mortality has been reduced by the eradication and control of diseases, (e.g., foot-and-mouth eradication in Mexico).

These factors have resulted in an estimated 1.5 percent annual increase in world stock numbers since 1950. There are now more than a billion cattle in the world. Unfortunately, a large proportion of the cattle are unproductive, or at a low level of productivity. The output of meat per head of cattle population in Europe, for example, is estimated to be about ten times greater than in the Far East and seven times greater than in Africa.

Productivity is continuing to increase. Substantial progress has been made in the United States in improving breeds of beef cattle to obtain a more uniform carcass with less waste. Also the Santa Gertrudis and Brangus breeds have been developed from crosses between Indian and English breeds to obtain an animal that produces meat efficiently in hot climates.

The estimated volume of meat produced in the world has exceeded 50 million tons since 1965. Over half of this (nearly 30 million tons) is beef and veal. Pigmeat forms the second largest meat type (about 20 million tons) and of minor importance are mutton, lamb and goat meat, which in total amount only to about 4 million tons.

The largest beef producers

The United States produces just under one third of the world's beef and veal (9 $\frac{1}{4}$ million tons of a total of 28 million tons in 1967). Production of beef has been increasing steadily in the U.S.A. over the 1960's with 14,728 million pounds being produced in 1960 and 20,212 million pounds in 1967. There has, however, been no similar increase in veal production (1,109 million pounds in 1960 and 792 million pounds in 1967).

The Soviet Union is the second largest beef producing country (3.5 million tons in 1967), Argentina is third and France is fourth. Together the above countries account for 55 percent of the world's beef output.

New Zealand, with a production of just under 300,000 tons in 1967, comes well below Australia which produced over 480,000 tons in the same year, and produces only slightly over 1 percent of the world's beef.

Projected future production trends

The F.A.O. in 1962 projected production figures for 1970, and revised and updated these in 1967. These latter projections extended to 1975 and 1985.

These projections are based in the first instance on the extrapolation of past trends. The results have been modified (understandably) to take account of factors which may reasonably be expected to affect the trend. An example here is the modification of the Western European projections to allow for the fact that because most of the beef originates from dairy herds in these countries, expansion will be discouraged to prevent dairy surpluses from becoming too large.

The projections for 1975 are:-

	Projected Production (million tons)		Present Production (1967)
	low	high	
E.E.C.	4.55	4.76	4.1
North Europe	2.34	2.46	1.8
North America	11.47	11.84	10.1
Oceania	1.61	1.70	1.2
Argentina	2.94	3.02	2.6

These projections are reasonably 'in line' with the F.A.O. projections for 1970. However, with the benefit of hind-sight we can now see that these earlier projections were set too high for beef. In particular, the projections for beef production in Western Europe and especially the E.E.C. were too high. In fact, production actually declined in this region in 1964 and 1965. The later predictions have been adjusted accordingly.

The revised projections indicate that by 1975 world production will be between 32.2 and 32.9 million tons. This is an increase of over 4 million tons on the 1967 figures.

Given the F.A.O. projections, the question becomes -

What effect will this increased production have on beef prices?

This will be determined by the changes in consumption of beef.

III. World Meat Consumption

Throughout the world, beef and veal consumption is influenced by consumer preference, product availability, relative prices and the economic ability to purchase. The interplay of these forces in recent years has resulted in marked shifts in beef and veal consumption.

Since 1960, per capita consumption of beef and veal in the 41 major producing and consuming countries has increased about 15 percent. The per capita consumption of beef and veal during 1966 represented about 53 percent of all red meats consumed, compared with 50 percent in the early 1960's.

The world's largest per capita consumer of all red meats in 1966 was New Zealand with 229 pounds per capita. This was the first time that New Zealand has surpassed the historical leader, Uruguay, which dropped to 224 pounds per capita in 1966 from 259 pounds per capita in 1965. Uruguay again took the lead in 1967. In 1966 the per capita consumption of beef and veal in Argentina was 190 pounds per capita. Most countries are showing an increase in consumption per capita of beef and veal. However, there are still some higher income countries where the per capita consumption of beef and veal is very low, (e.g., Spain 20 pounds per capita, USSR 36 pounds per capita, and Netherlands 44 pounds per capita, in 1966).

On a continental basis beef consumption is lowest in Asia where per capita intake is considerably under 10 pounds per year. In Asia, pork, mutton, lamb, goatmeat or fish are more important sources of animal protein.

In terms of total consumption the United States leads the world. Consumption was over 10 million tons of beef in 1963. Consumers in the United States annually eat about 33 percent of the world's supply of beef and veal.

Projected future consumption trends

In the F.A.O. projections for 1985, world demand for meat is expected to increase between 1975 and 1985 by an additional 20-30 million tons, bringing the total increase over the actual 1962-63 consumption to some 44 and 68 million tons, depending on which assumptions regarding population and income growth are taken. For this to be met, world production would have to rise by 68 to 93 percent over the estimated

1961-63 level. Alternatively, prices could rise which, in turn, would reduce this 'surplus'demand.

In the developed countries there is expected to be a slight slowing down in growth in per capita demand for meat during 1975-85, in view of the high consumption levels expected to be attained by the early 1970's. The increases in production needed to satisfy the projected 1985 demand would not be out of line with past achievements and the imbalance between demand and supplies would not be of significant size.

The projected increases in demand are relatively the largest in the developing countries where the technical, economic and social basis for substantial and rapid increases in production are still very inadequate. In spite of this, however, it is not expected that demand for imports will increase substantially in these areas, because of a lack of foreign exchange and low per capita incomes.

Factors affecting consumption

(a) Income elasticities

The concept of income elasticity is used to describe the relationship between income changes and the demand for a product. If a commodity has an income elasticity of demand (quantity) of, say, 3.0, this means that for every one percent increase in the income of consumers, there is an increase of three percent in the quantity consumers will buy. If the income elasticity was -3.0, then there would be a decrease of three percent in the quantity consumers will purchase for every one percent increase in consumer income. The F.A.O. (Commodity Bulletin, Series No. 40) presents evidence which suggests that in most countries meat has a higher elasticity than most other foodstuffs. This is encouraging for meat producers for it suggests that, given a steady rise in income throughout the world, meat consumption is likely to grow at a faster rate than the consumption of many other foodstuffs. However, it is unlikely to grow at the same pace in all countries and further evidence suggests wide differences in income elasticities in different parts of the world.

If countries are grouped in four categories according to their income elasticities for meat, and simple averages calculated for elasticities, consumption and national income in each group, some simple relationships immediately become clear. There is a consistent and striking relationship between income elasticity and meat consumption per capita. The smaller the consumption the greater the elasticity and vice versa. This means that the less meat people are currently eating the greater is their desire to have more for a given rise in per capita income.

These considerations might suggest that (leaving aside policy influences) the world meat market is eventually likely to expand most rapidly in countries which have low meat consumption and low incomes, provided their economies develop and their per capita incomes rise. However, because of the low starting point, the total amount of additional meat demanded could be very much smaller than in other markets where consumption was already high and income elasticities for meat rather low. For this

reason, potential growth markets can be identified only after a study of the combined effects of income elasticities and current consumption, in conjunction with the population of the countries concerned.

This may be illustrated by taking available data regarding population, income and income elasticities for meat. When this is done we may assume a given increase in income per capita, say, one percent, and rank each country according to increase in demand for beef (in tons) which would result.

Under these assumptions consumption of beef in the United States would increase by 67,700 tons, Japan 8,600 tons and New Zealand by only 400 tons. If this list is expanded to include all the main importing and exporting countries, then the four main importing countries (U.S.A., U.K., E.E.C. and U.S.S.R.) appear in the first six places while the four leading exporting countries (Australia, Argentina, New Zealand, Uruguay) appear in the last six.

On this evidence it appears that the present leading meat importing countries will continue to predominate in international trade for many years. This depends, however, on the domestic production and trading policies in these countries. It may well arise that the largest trading increases occur in some of the new markets. Japan is an outstanding example of a country with a large population and rising income, but a limited agricultural base and hence a large import potential. A number of countries surrounding the Mediterranean also have relatively large populations with rising incomes and are industrialising. While they also have a large agricultural sector, natural conditions are less favourable to livestock production than to particular crops, such as citrus, vines and olives, and for this reason may require more meat imports. Certain other countries in the Mediterranean area and Near East with large incomes from petroleum have an arid climate which does not support a sufficiently large livestock production; the population of many of these countries, however, is small which means they are not likely to become significant meat importers.

(b) Price elasticities

The concept of price elasticity denotes the response of buyers to a change of price in the market. Knowledge of such elasticities may assist exporting countries in taking decisions about the future level of production by showing the conditions under which price movements resulting from changes in supply will affect their export earnings and use of resources.

The retail price elasticity for beef in the United Kingdom is -1.0 (which means that a one percent rise in price will reduce the quantity purchased by one percent), in the United States about -0.9, and in the Federal Republic of Germany probably lower, say -0.75.

An exporter selling in one of the main established import markets may assume that in the long run retail price elasticity is in the region of -1.0, or unity. The elasticity at the point of sale by producer or exporter is likely to be a little lower, possibly about -0.8. This means that an increase in total supplies will lead to a slight reduction in the total earnings from sales of domestically-produced and

imported beef in that market.

From the viewpoint of export earnings of an individual exporter, the main factors to be considered are the reactions of prices to changes in total supplies in the importing country and the share of the country's exports in these supplies. For beef even in the largest importing country, namely the United States, imports form a small percentage of supplies (about two percent). This means that increased shipments by an exporting country (up to a certain point) would result in increased export earnings.*

The lesson in all this is that an exporting country desiring to increase exports will have to weigh up a great many factors, including its share of various import markets, the real cost of increasing exports, as well as the possible reactions to its policies by other suppliers, especially domestic producers. In most cases, these considerations are likely to be much more significant than any particular price reaction, but exporting countries with a choice of products to concentrate on will make a slightly more rational decision if price effects are taken into account as well. This also illustrates the desirability of breaking into and expanding new markets in developing countries where price elasticities (as well as income elasticities) are invariably higher than in the traditional import markets.

(c) Substitution and shifts between meats

Substitution between different meats may take place because of changes in consumer preferences or because of alterations in relative price levels. Outside a few major markets, statistical analysis in this field is lacking for different grades of meat and reference must be made to a simple comparison of the consumption of different kinds of meat. A common measure of substitution relationships is the cross-price elasticity which shows the effect which a change in price (or quantity) of one product has on the quantity demanded (or price) of another product. According to statistical studies of this kind for the United Kingdom, the Federal Republic of Germany and the United States, meat estimates are on the low side. In the United Kingdom, for instance, one study - based on data for the period 1954-57 - suggests that the supply of pork affects the price of beef by only one-eighth as much as does the supply of beef itself. Other calculated substitution effects are a little stronger, but are usually limited to about one-third of the price effect of changes in the quantity of the particular meat concerned.

(d) Changes in consumer tastes

The consumer tastes for unprocessed meats in the main importing countries are moving along very similar lines in that the emphasis is increasingly placed on lean,

* If, for example, imports of beef represent 30 percent of total supplies in a given country, and the price elasticity is about -0.8, a ten percent increase in imports would result in an increase of only three percent in total supplies (ignoring supply effects in the domestic country) which, in turn, would bring prices down by about three percent. Hence export earnings would rise about seven percent.

tender cuts from young, quickly-maturing animals. Moreover, price differentials between different cuts appear to have widened in several markets for meats other than beef. For beef, no pronounced trend in preferences for lower or higher grades of meat at the retail level have developed.

With beef there is also little premium for "table" beef over manufacturing beef. This is especially so in the United States where meat processors have been active in developing and promoting their products, thus supporting the demand for lower grade beef.

Behind many of the trends to both leaner, smaller, more tender cuts, and manufacturing beef, the obvious influence of rising incomes may be discerned, but many other social developments and attitudes are also relevant. Changes in the age composition of the population in the size of the family, in the proportion of working mothers, in the proportion of sedentary and heavy manual occupations, in the attitudes to human health and weight, in refrigeration facilities and in eating-out habits, all these will continue to influence meat consumption habits, especially in developed countries.

(e) Effects of new distribution methods

The growth of large stores, self-service shops and supermarkets can, in itself, affect the demand for different kinds, cuts and qualities of meat. In the United States self-service is reputed to have helped beef as against pork because it can be displayed more attractively in prepacked cuts. The same is probably true of high-grade as against low-grade meat. Increasing size of retail outlets means that standardisation, the meeting of precise specifications and standing orders that rule, so that firms can simplify and control cutting methods and administer a mark-up policy.

Thus, exporters of meat to the main existing import markets must, generally, expect a more exacting demand for their products. Standardisation of quality, and quality defined in terms of leanness, tenderness and appearance, will be required and buyers are likely to prefer a product which conforms strictly to certain specifications. This may require better grading of meat and/or vertical integration within the meat industry. It may take the form of meat companies offering contracts to individual farmers for the supply of certain quantities of a particular type of beef, thus ensuring the companies have a constant supply of a certain meat type with which to fill specific orders.

IV. World Trade in Beef

Beef and veal are the most important items in the world meat trade. Total gross exports of carcass beef and veal in 1963-65 accounted for about 57 percent of the gross exports of all carcass meat.

Beef and veal also represent by far the largest inter-regional flow in the world meat trade. Oceania (Australia and New Zealand) and Latin America are the largest net exporting regions, while Western Europe and North America are the largest importing regions. Asia, despite a cattle and buffalo population of 400 million head, is a

meat deficient area.

The United States and the United Kingdom received almost three-quarters of the total beef imports in 1963 (U.S.A. imported 971 million pounds, and the U.K. 733 million pounds). Australia and New Zealand together supply about two-thirds of the United States beef imports, while Argentina supplies more than half of the United Kingdom beef imports. (Exports from Argentina to the U.S.A. are prevented for foot-and-mouth disease reasons). There has been a swing away from the United Kingdom market to the United States market by Australia and New Zealand since 1958.

Despite the large amount of beef and veal traded on the world market, this only represents a small proportion of total world production. In recent years the proportion appears to have been between five and seven percent of world output. This means that small fluctuations in world production may have marked effects on the world beef trade.

The Changing Pattern of World Trade

The main features of the post-war meat trade include -

(a) Substantial fluctuations in volume, prices and export earnings

In the post-war years, until mid-1954, a large proportion of the trade in carcass beef was conducted under bulk purchase agreements between the United Kingdom and its main suppliers (Argentina, Uruguay, Australia and New Zealand). As exportable supplies were low in these countries and production had stagnated in the United Kingdom itself, the exporters were in a position to obtain higher prices each year. Since the termination of the long-term contracts, world market prices have risen and have largely been free to fluctuate with short-term movements in supply and demand.

In 1956 beef prices fell due to rising exports and increased United Kingdom production. Between 1955 and 1956 total exports from South America and Oceania jumped from 450,000 to 650,000 tons, while domestic production in the United Kingdom rose from 580,000 to 710,000 tons.

In the late 1950's the United States emerged as a large importer. In 1959/60 there was a decline in production and export availabilities in the Southern Hemisphere and these two factors resulted in an upward movement in beef prices in the world markets.

Prices fell again between 1960 and 1963. After 1963 production fell in most exporting countries, resulting in a 40 percent increase in prices, with a new peak being reached in 1965. During 1966 and 1967 prices remained fairly stable but in December 1967 a sharp rise occurred.

Since imports generally constitute a small proportion of total supplies in the importing countries, the instability in prices resulted largely from changes in domestic production, in these countries, in relation to demand.

The pattern of international trade in beef is determined more by prevailing regional price differences than by any other single factor.

(b) New markets have emerged

The volume of gross exports of beef and veal from the main trading regions

reached about 1.45 million tons in 1963-65 which was three times the 1948-52 volume. The greater part of these increases in exportable supplies was absorbed by the traditional importers in Western Europe.

The United States emerged as a large scale importer of beef in 1957. Before this date, imports of beef into the United States were negligible but, by 1963, imports were around 450,000 tons. Spanish imports also played a prominent role in absorbing substantial quantities of beef in the early 1960's.

Significant changes have occurred since 1964 as a result of the development and trends in production, consumption and prices.

In Western Europe, a principal beef importing region, production was lagging in 1964 while demand was surging. At the same time Argentina, the world's leading beef exporter and Europe's traditional source of import supplies, was experiencing substantially reduced production and export availabilities. This was the result of the previous year's drought-induced extra heavy slaughter.

While this occurred, the United States was experiencing its largest output in history, causing prices to be depressed. Australia and New Zealand, the second and third largest beef exporters with a substantial outlet for manufacturing type beef in the United States market, were also experiencing record production and high-level export availabilities.

The simultaneous occurrence of these combined factors results in a shift in the pattern of world trade in beef. Europe needed more beef and the United States needed less imported beef. Argentina was unable to fill the gap so Australia and New Zealand found a new market in Western Europe.

The shifts that emerged in 1964 continued throughout 1965. Western Europe import demand remained strong while export availabilities were limited by reduced or substantially unchanged production in Europe and South America, where herd rebuilding was still under way. Australia and New Zealand continued to move substantial quantities of beef to the attractive Western European markets. The United States set another new production record in 1965 and imported even less beef than in the previous year.

In 1966 production recovered in Argentina, but exports did not reflect this because of a large increase in domestic consumption. The E.E.C. imported less in 1966 due to an improvement in domestic supplies. In fact, conditions were such that in 1966 production was moderately up in nearly all regions of the world. While this meant that larger export supplies were available, consumption increases were such that there was a strong import demand which sustained world beef prices at relatively high levels.

Imports of beef into the United States were substantially larger in 1967 than in 1966, but imports of veal were smaller. Imports of boneless beef rose 13 percent and accounted for 85 percent of the total U.S. beef imports.

These fluctuations illustrate the point that while beef markets are likely to remain very profitable in the traditional importing countries, it only requires small short-term movements in production for a market to have surpluses

or deficits. This problem becomes more acute when impediments to trade are considered.

Impediments to trade

(a) Price support

Price support for livestock products are applied almost exclusively by developed countries which can generally better afford the expense of relatively high support prices. All the major importing countries have either a direct or indirect system for supporting beef prices which is a major source of farm income. To implement such policies some form of import restriction is usually necessary.

In the past, the effect of these support measures was that in most importing countries home production expanded sufficiently to meet all, or the bulk of the increase in demand.

(b) Tariffs and quotas

Important policy measures with a bearing on international trade in meat have been introduced during the last few years in the three largest import markets (the European Economic Community, the United Kingdom and the United States). Some of them have already had a significant impact on the world meat trade while the others are likely to do so in the near future.

(i) European Economic Community

The single market stage for beef and veal became operative on 29 July 1968. These regulations are basically the same as those which were in effect from 1964 to 1968. The key element is the common "guide price" for cattle and calves which is set each year by the Council. In order to ensure an average return to producers at the level of the guide price, levies are placed on imports of live cattle, calves and the various beef and veal products. The levy is fixed for live animals and derived for the meat products through a set of conversion factors. The levy corresponds to the difference between the world market price (calculated on the basis of prices in representative markets in Ireland, the U.K. and Denmark) increased by an import duty, and the internal market price of the commodity.

The full levy is imposed when the import price, increased by the import duty, falls below the guide price. No levies are imposed if the commodity market prices fall below the guide price or are up to six percent higher.

Recently, differential levies have been applied to imports from Argentina and Eastern European countries in periods when supplies from these countries, in the view of the Commission, were offered at abnormally low prices.

In the beef sector these measures have proved to have had a least two undesirable effects. Not only do they divert supplies to other markets in times of higher production and hence disrupt those markets, but because they are set weekly, they have also introduced a major element of uncertainty in the meat market.

(ii) United States of America

Apart from veterinary restrictions which prohibit imports of carcass meat

from countries where certain livestock diseases are endemic, (e.g., foot-and-mouth disease in Argentina), the United States maintained a free market for meat until 1964. However, following a series of bilateral agreements with its main suppliers to limit shipments, legislation was enacted in August 1964 (Public Law 88-842), which provides for the imposition of quotas on fresh, chilled and frozen beef and veal, mutton and goatmeat, if imports would otherwise exceed certain levels.

The method used to set the import ceiling allows the share of foreign supplies to grow proportionately to domestic production. The quotas, if imposed, would equal the 1959-63 average imports (323,840 tons) adjusted up or down by the same percentage as the average annual production during that year and the two preceding years is above or below the average domestic production for the 1959-63 period.

Import quotas are imposed only if the ceiling is expected to be equalled or exceeded. The proportion going to each country will be determined at the time of the quota imposition.

Quotas may be suspended or increased if:

- (a) Such action is required by over-riding economic or national security interests of the U.S.A. giving special weight to the importance of the domestic livestock industry.
- (b) The supply of beef and mutton will be inadequate to meet domestic demand at reasonable prices, and
- (c) Subsequent trade agreements ensure that quota provisions will be met.

Under this law the quota for 1967 was 904.6 million pounds and the quantity supplied was only 850 million pounds.

Thus, while the quotas are reasonably 'generous' by current standards, they would not allow substantially increased imports from any individual supplier in years of heavy production in the exporting country.

(iii) United Kingdom

The United Kingdom is not only an important market for beef, but it is also the only major market of the world with practically no restrictions on access. The policy changes in recent years have not involved measures which would directly affect access in the immediate future. However, they do relate to production objectives which, in the longer run, could result in a reduction in the shares of the exporting countries in the United Kingdom's meat markets.

Under the current National Plan, a Selective Expansion Programme for agriculture has been introduced with the objective of expanding agricultural production sufficiently to enable the industry to meet the major part of the additional demand expected in the 1970's for food which can be grown in the country. Since 1966 the determination of the guarantees to farmers has been governed by the aims of the programme. Special emphasis is placed on the expansion of meat production, particularly beef.

As well as this declining dependence on imports of beef, the United Kingdom would also demand voluntary restrictions by exporting countries in periods of large supply.

(iv) Minor markets

The policies pursued in the countries accounting for the remaining third of the world meat imports vary widely, but in no important case are all supplies allowed free entry. The three countries with the next highest meat imports in recent years have been U.S.S.R., Eastern Germany and Czechoslovakia. Each has a centrally planned economy with state control of imports, usually associated with bilateral trading agreements. The prices paid in each transaction partly depend on current prices in alternative export markets, though other longer-term considerations may influence individual agreements to a varying extent. All three countries plan to increase meat production substantially, and the extent to which they will continue to play an important part in the world meat trade will largely depend on the success of these plans as well as the general rate of growth of their national incomes.

In Austria, Belgium, France, Norway, Sweden and Switzerland, there are meat policies which incorporate a form of "target" price for domestic producers. In some instances, (e.g., Austria, Belgium and Switzerland) these targets take the form of a price band with a maximum and minimum price level. The target for domestic prices in all six countries usually has been fixed at levels which are considerably above the price at which imports could have been taken. The methods used to maintain this differential vary.

Greece, Israel and Japan are among the other countries with a significant meat import trade; they use various methods to control imports, but perhaps the main common feature of their policies is the desire to keep domestic production at least in step with consumption so that increased meat imports will not prove a rising charge on foreign exchange earnings. The desire to husband such earnings leads to severe restrictions on meat imports into most developing countries, though trade in live animals is often well-established between neighbouring countries, especially in Africa and South America.

(c) Veterinary Regulations

International trade in meat is subject to strict veterinary controls imposed by the importing countries. While in principle they serve no other purpose than to prevent the spread of animal disease through trade in live animals and meat, in the absence of generally accepted standards, they can be applied to discriminate against imports in general, or imports from particular sources.

Because of veterinary restrictions most developing exporting countries are cut off from the major import markets as far as carcase meat is concerned, although there are a few instances where it was possible to find solutions that would reduce to an acceptable minimum, from the point of view of the importing country, the dangers of spreading diseases through shipments of carcase meat. Further progress in this

restrictions

direction would remove one of the most serious obstacles to the expansion of meat exports from the developing countries.

(d) Conclusions

There are now market regulations in force which would reduce or at least limit the quantities of beef allowed into the importing countries in times of over-supply from domestic production. Even in the U.K., where no formal restrictions apply, imports would probably be kept within limits by voluntary agreements. Therefore, in spite of the generally favourable outlook for beef exporters, difficulties could arise in times of heavy domestic production in the main importing countries, particularly if they were to coincide with increases in supplies from the exporting countries, as happened in 1956-57 and again in 1962-63. If this occurred there would no longer be any major outlets which could absorb large quantities of meat suddenly arriving on the world market. For this reason it is desirable for New Zealand to develop an alternative outlet for beef and the country which suggests itself is Japan.

PART 3The Potential for Increased Beef Exports
to Japan

This section takes one potential beef market, Japan, and looks at its characteristics in more detail. Japan's overall economy is dealt with first, and then the agricultural sector and, finally, the production and consumption of beef.

I. Japan's Economy

Japan's economy in recent years has been characterised by:

(a) A very high economic growth rate

Japan's economic rehabilitation from World War II and post-war economic expansion has been remarkable. The nation's average real economic growth rate was 9.6 percent between the fiscal year 1946 and 1955, and 10.1 percent in the following seven years. In fact, it was more than twice as fast as the average growth rate of 4.6 percent in the pre-war period of 1926 to 1939.

Behind this phenomenal expansion were -

- (1) Brisk war rehabilitation demands.
- (2) The Korean War boom.
- (3) Expansion of the domestic demand and the intensification of entrepreneurial competition by the Occupation Forces' economic "democratisation" measures such as land reform, revival of labour movements and the disbanding of Zaibatau control.
- (4) Advanced technology, abundant manpower, and the industry of the people.
- (5) A high level of saving.
- (6) Technological innovation and a consumption revolution.

Japan's astounding economic expansion has exceeded that of other countries. The West German and Italian growth rates stayed at the six percent level during the 1955-1962 period, and those of the United States and Great Britain at the two percent level.

The high economic growth has inevitably raised the per capita national income. By 1962, the per capita national income rose to \$459, equivalent to one-seventh of the United States national income as compared to a mere one-fourteenth around 1950. The gap has been narrowing every year since as a result of the unabated economic expansion.

(b) A changing industrial pattern

Industrial production has also undergone a structural change. Statistics of industry-by-industry national income show that the primary industries (agriculture, forestry and fisheries) diminished their share of gross national income to 14.0 percent in 1962 from 22.7 percent in 1955, secondary industries (mining, construction, manufacturing, etc.) expanded to 38.8 percent from 30.2 percent, and tertiary industries (wholesaling, retailing, service trades, finance, insurance, etc.) did not change.

Japan's production structure is steadily nearing a pattern approximating that of the advanced countries, but the weight of primary industries, when compared with those of the United States, Great Britain and West Germany, is still too high, being about the same as in Italy.

Modernisation of the production structure is continuing and in 1967 primary industries accounted for 10.9 percent, secondary industries 41.6 percent, and tertiary industries 47.5 percent of gross national income.

(c) An improvement of the consumption structure

The rapid growth of the Japanese economy is attributed largely to a ruthless policy of promoting efficient growth industries and modernisation of plant. This has been accompanied by changes in the nation's consumption demand which has also risen at a fast rate.

By 1961 the personal consumption spending increased 52 percent over 1955. During the same period, consumption spending rose 18 percent in the United States, 15 percent in Great Britain, 28 percent in France, 34 percent in Italy and 50 percent in West Germany.

In view of the remarkably high level of investment in industrial facilities which is boosting industry's productive capacity, both consumption demand and exports need to be expanded more. In Japan, personal consumption expenditures account for a little over 50 percent of the country's gross demand as against 64 percent in the United States, 60 percent in West Germany and 61 percent in Italy.

In Japan Engel's Coefficient, that is, the proportion of spending on food-stuffs in the total consumption expenditure, is in the neighbourhood of 45 percent, about the same as in Great Britain and Italy.

The proportion of cereal grains in total food consumption is high while that of dairy products and fats and oils relatively low. For traditional and geographic reasons, the consumption of fish and shellfish is the highest in the world.

Spending on clothing is smaller than in European countries and the United States, but expenditures for housing, lighting and heating and miscellaneous items are about the same.

In general Japan's consumption structure follows the Western pattern, but the per capita intake of nutrients is relatively low. In recent years, the consumption of milk and meat has risen to a fairly high level and pressure is becoming greater for the relaxation of restrictions on imports of dairy products. However, the Japanese livestock industry is not competitive by world standards and it seems unlikely that there will be any general removal of the restrictions on meat and dairy products, but the rising demand for these products will ensure that imports increase.

II Japan's Five-Year Economic Plan

In 1964 there was a general slowing down of the Japanese economy which resulted in a realisation among the Japanese people that the nation's economic advance should be stabilised. During the slowing down of the economy it was claimed that economic growth was incompatible with stability. This realisation was also based on the fact that price spiralling and other so-called 'distortions' of the economic growth in the preceding years, were reaching an unbearable point.

It was against such a background that the Government's new five-year economic plan was enforced for the fiscal years 1967-71. Called the "Economic and Social Development Plan" it aims, above all else, at:-

- (1) Stabilising commodity prices
- (2) Making the national economy more efficient, and
- (3) Promoting social development

The plan envisages an average annual growth rate of some eight percent, stating that it will be slower in later years than in the initial years. Ironically, however, the proposed eight percent per year - high by international standards, but much slower than the past figures in Japan - is higher than any policy target set in the previous economic plans. Some scholars point out, however, that the idea of sacrificing growth for the sake of stability is virtually bankrupt.

In any case, the plan points out that some of the factors favouring Japan's economic advance in the past are fast disappearing. The labour supply is becoming increasingly tighter, the situation surrounding technological imports is proving less favourable, and Japan is facing keener international competition, both from developed and developing countries. In other words, the plan is coloured with a kind of crisis-consciousness. Large-scale investments and industrial reorganisation movements in developed areas and the advance of developing countries supported by their low labour costs are making it necessary for Japan to strengthen her international competitiveness all the more.

III. Food Consumption in Japan

The Japanese diet, particularly in urban areas, has traditionally centred

around rice, resulting in the development of a food-consumption pattern that is quite different to that of the West. Until recently all other foods were considered supplementary to the main dish of rice. The typical diet is commonly described as shushoku or "main food" (rice) and fukushoku, which refers to all other foods eaten in smaller quantities as supplements to the main dish. Over the centuries, there appeared a large number of these accessory or side dishes (frequently called o-kazu in Japanese) that complemented the taste and appearance of white rice. Among these were soup made with fermented soybean paste (miso shinu), pickled vegetables, lavae, kelp, raw and baked fish, and numerous other kinds of seafood from squid to octopus. Most of these have a strong, distinctive taste which serves to counter the rather bland taste of boiled rice. In addition, the Japanese are avid users of strong sauces, vinegar, rice wine, Japanese-style horseradish, Japanese leeks, dashi (a fish soup stock) and other condiments.

The sustenance of a farming/fishing society that depended entirely upon its own resources for food, caused the Japanese diet to become standardised very early in the history of the country and it changed very little over a period of several thousand years. As a result, the Japanese developed an extraordinary physical and psychological dependence upon their particular diet. In addition, there developed a strong mystique surrounding the diet which determined the order in which the food was to be eaten and when certain foods were to be eaten. The Japanese thus became deeply attached to their traditional diet. Because of the sameness of this diet century after century, it reached the point where the aesthetic appeal of the food and the utensils for serving it took on as much importance as its taste and nutritional value.

Recently many middle and upper class urban Japanese have developed a partially cosmopolitan taste and regularly patronise the large number of so-called Western-style restaurants in cities and towns through Japan. But except for a relative few with "purist" cooks and management, or primarily Western clientele, most of these restaurants serve dishes that have been Japanised to varying degrees, and rice is always available in quantity. One of the most popular foreign dishes in Japan is spaghetti, no doubt because of its similarity to Japanese noodle dishes.

It is estimated that urban Japanese spend about 8 percent of their total food budget in restaurants. Most of them eat traditional-type meals at home, but tend to favour "Western" restaurants when dining out. There are over 33,000 restaurants in Tokyo alone. Throughout Japan there are approximately 70,000 general restaurants, 4,000 Western-style restaurants, 17,000 raw-fish restaurants, and 13,000 speciality restaurants serving such specialised items as grilled chicken, wild boar meat and clams.

How the diet is changing

The so-called Westernisation of the Japanese diet implies to some extent

that the Japanese are dropping their traditional diet in favour of Western-type meals. This is not so. What is happening is that as incomes rise and people learn about the nutritional value of certain "Western" foods, they add small quantities of these foods to their diet as side dishes. It is estimated that about 91 percent of all Japanese still eat a rice-miso-fish-vegetable diet, and only three or four percent base their diet on bread, meat, milk and vegetables. One of the most important reasons for the continuing popularity of the traditional Japanese diet is strictly economic. It costs only a fraction of the "Western-type" diet.

Overall there have been remarkable changes in the diet of the Japanese since the 1940's and 50's. Prior to 1940, for example, cereal grains accounted for up to 40 percent of the food budget. By the mid 1950's this had dropped to around 20 percent. In 1955, only about 10 percent of the urban dweller's food budget was used to buy meat, milk and eggs. Now about 20 percent is used for these items with an additional 10 percent for fish, 8 percent for vegetables and 6 percent for fruit.

Along with the recovery of the consumption level of staple foods after the war, meat consumption increased. At present beef and pork consumption is twice the pre-war level.

Pork and beef can be substituted for each other. In Eastern Japan, especially in Tokyo, pork is preferred and in Central Japan beef is preferred.

TABLE II

Meat Consumption in Japan
1951, 1954 and 1956.
 (Momme*/capita/year)

	<u>Rural Areas</u>	<u>Cities</u>	
	<u>Animal Meat</u> momme	<u>Beef</u> momme	<u>Pork</u> momme
1951	67.3	348	133
1954	97.8	391	160
1956	140.0	525	230

*Momme = 3.75 gms.

Source: "Marketing of Agricultural Products in Japan", Tatsuo Midaro
 Agriculture, Forestry & Fisheries Productivity Conference,
 14 March 1960, Table 51, p.55.

Development of processed foodstuffs has been remarkable in recent years. Consumption of processed goods such as ham, bacon and sausages is increasing at the rate of about 20 or 30 percent a year. This is due to an increased liking for Western-style dishes, the manufacture of polyethylene, latex and tinplate, modernisation of marketing and so on. Nearly 20 percent of pigment and 7 percent

of beef is processed. There is greater consumption of processed meats in urban districts.

IV. Japanese Agriculture

Small-scale farming utilising family labour prevails in Japanese agriculture. It is sometimes attributed to the scarcity of arable land and over-population in rural areas, but the basic reasons for this situation are found in the unique development process of the national economy of Japan as a capitalistic country.

When Japan entered into world trade one of the greatest needs was to quickly accumulate capital in the mining, manufacturing, transport and communication industries. The Government itself took a leading role in meeting this need through financial measures.

Funds for national economic construction were raised by the Government through the high rate of land tax which originated from, and was incorporated with, the feudalistic high-rate commodity contributions to the landowners by the farmers. The capital thus raised from agriculture was invested in mining, manufacturing and other industries, either through the organisation of national enterprises or in the form of industrial subsidies to private business. Under this policy Japan was quickly able to establish a modern capitalistic economy. However, such a policy hindered the accumulation of capital and the application of modern technology in farming.

Agriculture in Japan prior to World War II was characterised by absentee landowners, small-scale farming and chronic over-population. During the world depression which affected Japan in the latter part of the 1920's there was an economic crisis that threatened the existence of small farmers. This led the Government to take protectionist measures. Thus the "Protectionist Policy" came to form the keynote of agricultural and forestry policy in pre-war Japan.

After the end of the Pacific War, Japanese agriculture was subjected to sweeping reforms by which the "parasitic" landowner system was abolished and a great number of new owner-farmers were created. It appeared that opportunities were offered for the accumulation of capital by the newly created owner-farmers and for resulting progress in agriculture. Unfortunately conditions of the national economy surrounding agriculture did not permit the realisation of such an optimistic outlook.

There is no doubt that much progress has been made in various phases of agriculture in postwar Japan. Farm production levels far exceed that of pre-war days. Cash crops have increased rapidly and there has been much progress in the development of new techniques. Despite this, one of the basic weaknesses of Japanese agriculture inherited from prewar days (the low level of productivity and the great lag in its rate of increase as compared with other industries) still remains.

Some foreign observers have stated that Japan's greatest achievement is that it has made itself self-sufficient in rice but this is probably one of Japan's greatest errors. Agricultural support has been concentrated on encouraging an expanded cultivation of rice and wheat, just when the Japanese public had started to eat less of these staples and more meat and dairy products. It would be logical for Japan to buy more of her rice from other Asian countries, particularly if she wants these countries to open their doors to more exports of Japanese manufactured goods.

Possibly providentially, Japan's upsurge of consumption of meat and dairy products is coming at a time when (because of its past rice-eating habits) it has not itself an army of dairy farmers to over-protect and also at a time when New Zealand (a mere 3000 miles away) is looking for new markets.

Japan's Livestock Industry

The livestock industry does not play an important role in the Japanese Farming industry. Since World War II, the output of livestock products has increased sharply with the increase in demand due to changes in the people's food consumption habits. In the late 1950's rice consumption per head of population was 16 percent less than before the war while milk consumption had risen six times. This tendency has persisted because it has been calculated that the income elasticity of demand for milk is 1.23 compared with only 0.31 for rice.

The change in farming patterns has called for much additional fixed capital in the form of stock and buildings. Many highly capitalised and specialised enterprises have appeared (notably those for broiler and pig production) which bear little resemblance to the traditional peasant farm.

The changing pattern of farming in Japan is being complicated by the current policy of trade liberalisation. Since the war the Government has purchased rice at a fixed price and has in effect subsidised its sale to consumers. What began during the war as a method of protecting consumers against increases in the cost of living was transformed, after the middle 1950's, into a system by which the rice growers were guaranteed, at the taxpayers' expense, high prices for their products. The producers of other cereals, barley and wheat, have also benefited by a policy of price stabilisation and the typical Japanese farmer has continued to derive the greater part of his income from cereals. With this shift in demand to other foodstuffs, the more alert farmers have been diversifying their production. The rice policy will no doubt be continued in a modified form, but the abolition of import restrictions on other products might expose the more rapidly growing sectors of agriculture to fierce competition from abroad. Subsidies to that sector could hardly be adopted without breaches of international trade regulations. (Not that this had had any effect on other G.A.T.T. members). The newest and most thriving parts of

agriculture might, therefore, become the most vulnerable. Dairy products and livestock present a particularly difficult problem. Japan has very little grazing land at present and the supply of domestically produced fodder is short. For this reason the growth of livestock farming has been accompanied by a large increase in imports of cattle feeds. The further expansion of the livestock industry, whether it is brought about by some form of protection or by enhanced efficiency, will require additional imports of these cattle feeds in the future unless, as has been proposed, the area of grazing can be extended by sowing suitable grasses on the hills. While the area of permanent pasture has increased over the period 1960 to 1965, areas of temporary and mountain pasture have declined. This has resulted in an overall reduction in pasture area.

TABLE III

Pasture Area (hectares)

	<u>Permanent</u>	<u>Temporary</u>	<u>Mountain</u>	<u>Total</u>
1960	47,689	353,479	231,826	632,994
1965	78,663	212,799	172,506	463,967

This lack of pasture development has resulted in stall feeding and consequently the killing of cattle at a younger age.

Another problem with expanding the cattle industry in Japan is the low initial cattle population. In 1955, India had the largest number of cattle (115 million head), followed by the United States with 95 million, the USSR with 65 million, Brazil with 61 million, Argentina with 45 million and Australia with 16 million, Japan had only 3 million.

In 1965 the total cattle numbers had dropped slightly below the 1955 figure. This was largely due to a reduction in the use of draft animals. Over the same period the number of cows for milking more than doubled.

TABLE IV

Cattle Numbers

	<u>Milk Cows</u>	<u>Draft and Beef Cattle</u>	<u>Total Cattle</u>	<u>Sheep</u>
1955	587,570	2,590,130	3,177,700	944,940
1960	823,500	2,339,690	3,163,190	788,060
1965	1,288,950	1,885,810	3,174,760	207,060

Measures for livestock improvement

The majority of stock-raising farmers combine livestock raising with farm cultivation. Large-scale raising of livestock is not common. Thus livestock raising is in the hands of farmers whose scale of operations is so small that development of livestock production cannot be expected through the resources of farmers alone as is the case with other types of agriculture in Japan.

TABLE VNumber of Farm Households keeping Livestock

	<u>Number of Households (000's)</u>	<u>Livestock (1960) per Household</u>
Dairy Cows	365	1.8
Draft and Beef	2,154	1.1
Horses	645	1.2
Sheep	629	1.5

Under these conditions, measures for livestock improvement have featured more and more in the overall agriculture and forestry budgets. The main aim of this expenditure has been to:

- (1) raise the level of the nation's food consumption by increasing the supply of livestock products and thereby benefiting the national economy, and
- (2) to rationalise and modernise the farm household economy by way of livestock production.

A number of methods are followed. For farmers in cold districts, the Government leases Government-owned horses to them on condition that they return a newborn colt free of charge; farmers' co-operative associations are given subsidies that cover part of the interest on loans needed by farmers in obtaining livestock and in covering losses in their livestock operations; co-operatives are given subsidies for their stock consignment services to medium and small farmers who are too poor to own their own cattle; projects are supported for the importation of Jersey cows through World Bank loans. Long-term and low interest loans are provided to new settlers for purchasing livestock.

Since 1964, seventy-five intensive dairy districts have been designated across the country to help introduce cows into the right placed and promote intensive dairying.

(a) Genetic improvement

There are two focal points of Government measures in this category.

- (i) maintenance of 15 national livestock breeding stations throughout the country to breed, improve and distribute pure strains of

livestock and poultry, and

- (ii) subsidies for prefectural livestock stations and similar establishments in securing pure strains of livestock.

(b) Animal Hygiene

The Government maintains a quarantine service for imports and exports of livestock and livestock products and an inspection service for veterinary medicines.

(c) Grassland improvement and feed measures

Grassland improvement is advocated not only for the improvement of livestock raising, but also for the improvement and development of farm land as a whole. It involves difficult problems such as the shortage of capital and labour, efficient use of technical extension, and complicated titles to grasslands. These are problems which the farmer cannot solve himself.

(d) Livestock insurance scheme

Livestock insurance helps to stabilise the income of livestock farmers. This insurance covers losses incurred from disease, injuries or death.

Summary

Despite the steady progress now being made with the improvement of the livestock industry in Japan, it is unlikely to ever grow to the point where it will be able to satisfy the Japanese consumer demand for beef. This is because of the low level of current beef production and the lack of food available for these animals. Also, apart from these "on farm" problems, there are Marketing problems associated with the Japanese livestock industry.

V. Marketing of Meat in Japan

Japan's farming still depends largely upon draft animals. Therefore the meat animal market and draft animal market overlap in some quarters, though they are specialised in others. Formerly, only horses for military use and Japanese and Korean cows for farm work were raised so the meat supply chiefly depended on discarded cows and imports.

In 1931, meat animals raised totalled 1,600,000 and 400,000 were butchered of which 100,000 were imported from China and 300,000 were home-raised. No more than 10 percent of the butchered animals were fattened for sale as meat. After the war, meat animal production developed and the number of animals butchered increased by more than two times the pre-war figure. Cow numbers have now increased to over 3 million. This increase has mainly taken place in the upland field farming areas in eastern Japan. The fact that sweet potatoes, wheat and barley can be used as feed is one of the reasons why cow raising came to be introduced vigorously in those districts.

In purchasing animals, farmers depend on cattle dealers for 70 percent of the draft and meat cattle they buy and 28 percent of the pigs. Sixty-five percent of the draft and meat cattle and sixty-four percent of the pigs are also sold through dealers.

Although the Government encourages the selling of animals through farm animal markets, this is not a general practice. More calves than other types of animals are sold in this way with the calves that are marketed actually flowing through the farm animal markets.

At the farm level there is a tendency for dealers to influence and advise farmers regarding the introduction of young animals, mating, medical treatment and financing, etc., and competition is imperfect. This means that the middle-man's margins are often high and there is usually about a 65 percent difference between retail and farm gate prices for beef. The marketing channels for Japanese cattle and meat are illustrated in Charts 1 and 2.

Prices

Farm-gate prices are fixed by the following calculation: body weight times the yield rate times the meat price per unit. Prices are likely to be disadvantageous to farmers because:

- (1) Weight in most cases is a rough estimate.
- (2) Prices are not subject to effective competition.

Imperfect competition is encouraged by the fact that the supply of livestock is spasmodic and that grading standards are not clearly defined. To counter this, Meat Wholesale Markets have been established recently and this is a start towards the modernisation of the marketing system.

At the time of the Korean war, livestock prices were high due to a shortage of stock. Since then, the farm gate prices have fallen as the number of meat animals raised has increased.

Cattle prices often change in a seasonal pattern due to the demand and supply situation for draft cattle. The price of draft cattle is high in the farmers' busy season, March, April and May, and again in September and October. Outside these seasons the price falls because cattle no longer useful as draft animals are marketed. Beef cattle prices fluctuate less than those of draft cattle.

VI Japan's Meat Trade

In recent years Japan has become a member of GATT and has been following a course of trade liberalisation. This has led to a liberalised trade policy for a number of Japan's imports. Unfortunately there are still over 130 non-liberalised items which include farm products such as beef, pork and dairy products.

CHART 1
MARKETING CHANNELS OF JAPANESE CATTLE

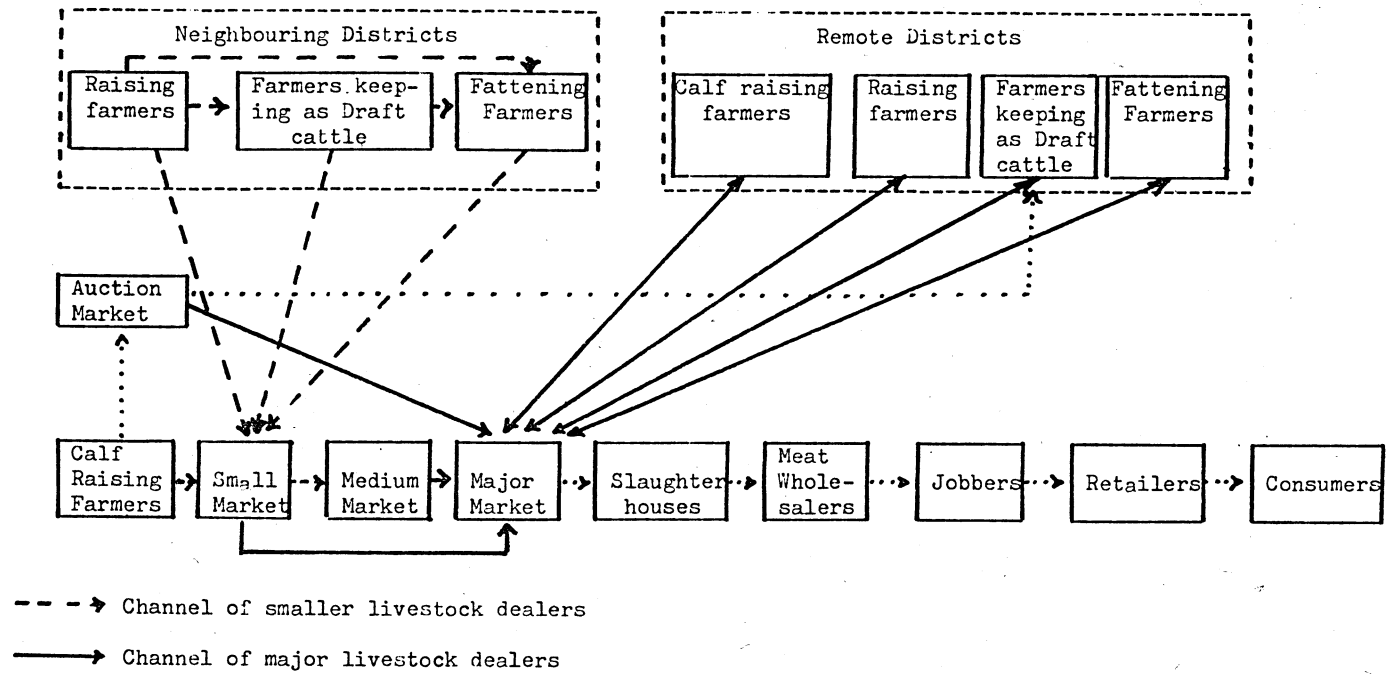
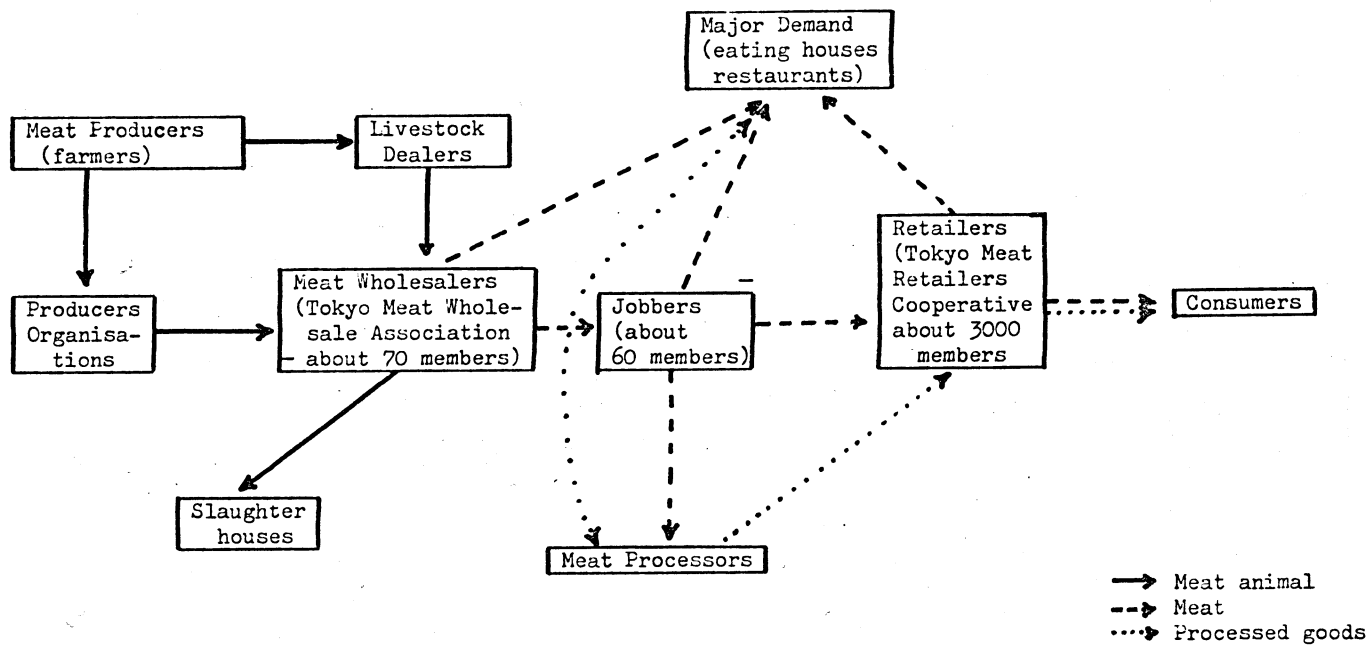


CHART 2

DEALING ROUTE AT SHIBAURA SLAUGHTER HOUSE



Beef imports into Japan are also subject to a 25 percent Government import duty, plus a variable levy which at present is 50 yen per kilo imposed by the Japanese Government. Beef imports into Japan have followed an upward trend over the last few years, increasing from just under 5,000 tons in 1963 to over 19,000 tons in 1968.

Gorrie* in his doctoral thesis on New Zealand's future export trade with Japan predicts that by 1975, Japan will be importing between 200,000 and 250,000 metric tons of beef. (1 metric ton = 0.9844 long tons).

Australia is the main supplier of beef to Japan, shipping over 8,000 tons in 1967. The balance is derived mainly from New Zealand (2,800 tons in 1967) and Okinawa. The latter source is not subject to import duty or quota restrictions.

New Zealand's exports to Japan have been increasing. In 1964 New Zealand shipped 810 tons of beef and veal to Japan valued at \$261,000. In 1966 this had increased to 3,000 tons valued at \$1,225,000. Thus not only have the quantities increased, but so have the values per pound. As well as this, Japan increased from New Zealand's tenth largest market in 1964 to her third largest in 1966.

*A.M. Gorrie, "New Zealand's Future Export trade with Japan : A Geographic assessment in the light of recent trends in Japanese Agriculture and Forestry", Department of Geography, Auckland 1967.

PART 4Summary and Conclusion

There are nearly 30 million tons of beef and veal produced annually in the world. Production is expected to increase steadily in most countries over the next ten years. The United States is the world's largest beef production country and produces 9 million tons annually. By comparison New Zealand's annual production of 300,000 tons is very small.

The United States also dominates world consumption of beef, consuming approximately 33 percent of the world's supply. As a generality, consumption per head of beef is high in the main producing countries. Beef consumption is lowest in Asia where per capita intake is considerably under 10 pounds per year.

Projections made by the F.A.O. indicate that increases in the demand for beef will be greatest in developing countries. This is where the technical, economic and social bases for substantial and rapid increases in production are still very inadequate. Unfortunately, these countries generally have low per capita incomes and these would need to rise considerably before their imports can increase significantly. For this reason the traditional beef importing countries are expected to dominate world trade for some time. Japan, however, is the exception. This is one country with a rapidly rising per capita income, large population and a limited livestock industry.

Currently, Australia, New Zealand and Latin America are the largest beef exporters. Western Europe and North America are the largest importers, with Asia also being a net deficit area. It must be realised, however, that only about five to seven percent of the total world supplies of beef and veal are traded between countries. This means that relatively small fluctuations in world production may either create or destroy profitable export markets.

Another feature of the world trade in beef is that importing countries - almost without exception - limit beef imports by means of quotas and/or tariffs. These have two effects. First, they support domestic production, usually sufficiently to keep production increases in step with consumption increases. Secondly, they reduce or at least limit the quantities of beef allowed into importing countries in times of over-supply from domestic production. Even in the United Kingdom, where no formal restrictions apply, imports would probably be kept within limits by voluntary agreements. Therefore, in spite of the generally favourable outlook for beef exporters, difficulties could arise in times of heavy domestic production in the main importing countries, particularly if they were to coincide with increases in supplies from exporting countries, as happened in 1956-57 and again in 1962-63. If this occurred,

there would no longer be any major outlets which could absorb large quantities of meat suddenly arriving on the world market. For this reason, it is desirable for New Zealand to develop an alternative outlet for beef. The country which suggests itself is Japan.

Since the second World War, Japan has experienced a very high rate of economic growth. This has resulted in per capita incomes rising from less than one-fourteenth of that of the United States in 1950 to about one-sixth in 1968. Over this period, Japan's economy has undergone modernisation to the point where, in 1967, primary industries accounted for only 10.9 percent of the country's Gross National Product.

Traditionally the intake of nutrients in Japan has been low, by Western standards, with rice forming the main portion of the diet. When other foods are eaten they are taken in the form of side-dishes and eaten in small quantities. The Japanese, however, are keen to experiment with food and generally eat at a "Western-style" restaurant when dining out. This has resulted in the establishment of over 4,000 Western-style restaurants throughout Japan.

In recent years there has been a swing towards a meat, milk and egg type diet among urban Japanese (especially the younger generation). Beef and pork are the preferred meats and this preference has resulted in the consumption of these two meats doubling in post-war years. In most areas of Japan, beef and pork are substitutes, except that in Eastern Japan, especially in Tokyo, pork is preferred while in Central Japan beef is preferred.

Another recent trend in Japan has been the development of the consumption of processed foodstuffs. This has resulted in the consumption of processed goods such as ham, bacon and sausages, increasing at the rate of 20 or 30 percent per year. Currently about seven percent of all beef eaten in Japan is processed.

Development of beef consumption has thus occurred in two main ways. First, there has been the development of the higher priced restaurant trade utilising better grades of meat. Secondly, the expansion of processed, easily prepared foods utilising boner beef. While these two areas will continue to expand, it appears likely that with the growing consumption of beef in these two forms, the Japanese will begin to substitute beef for rice in the home. When this occurs, there will be a virtual 'explosion' of demand for beef in Japan.

Unlike most traditional beef importing countries, Japan's farming is not geared to cope with this expansion of consumer demand. Japanese farming is characterised by small holdings. It is also a section of the economy which has attracted least attention in Government plans over recent years. Emphasis has been placed on rice growing and there is very little available grazing land. This means that cattle must be fed on a non-grass diet. The domestic supply of these cattle feeds is limited, thus any increase in beef production will require large increases in the importation of foodstuffs. There are also many other problems associated with the development of a beef cattle industry in Japan. Two examples are the lack of breeding

cows and also the poorly developed marketing system for beef cattle. One result of these factors is that if the price of beef is to be kept at a reasonable level in Japan (and they will need to do this to slow down the slaughter of cattle and the building up of their domestic industry) then the volume of imports of beef into Japan will have to increase significantly in the coming years. This dependence on beef imports to satisfy a large proportion of consumer demand will mean that beef prices and import quotas will be more stable than in any other significant beef importing country.

In the short term, imports of beef into Japan are restricted by quotas and subject to an import duty. Quota allocations have been increasing rapidly. They have more than doubled in the last three years and now represent more than 20 thousand tons of beef (one-fifth of our total exports). The supply of beef to fill the quotas is allocated by the calling of tenders, with allotments being made primarily on past performances.

Australia has been quick to see the potential for beef exports to Japan and has become her main supplier, placing New Zealand at an early disadvantage. This leeway will only be made up with a concentrated effort by the New Zealand Meat Board and meat export companies, accompanied by trade negotiations at Government level.

If New Zealand is prepared to relax its restrictions on the importation of manufactured goods from Japan, then New Zealand will be in a strong position to secure a reasonable share of what promises to be a large profitable and stable market for any future increases in beef exports.

APPENDIX ASOURCES OF INFORMATION

This Appendix will briefly list a few of the more important sources of information relating to the world beef trade.

Perhaps the most authoritative sources of information are the publications of the Food and Agriculture Organisation of the United Nations (FAO). This organisation publishes regular articles on this topic, examples being : "The State of Food and Agriculture 1967" (C67/4 1967) and the "Review of Trends and Major Problems in the World Meat Economy" (Committee of Commodity Problems - forty-third session - CCP 68/9 5 August 1968). These publications give historical data on the world meat trade. Projections of future trends have been handled in "Agricultural Commodity Projections for 1970" (E/CN 13/48 CCP 62/5 1962) and more recently, "Agricultural Commodities Projections for 1975 and 1985" (CCP 67/3 1967). There is also a publication in the Commodity Bulletin Series of the FAO (No.40) entitled "The World Meat Economy" which deals exclusively with the World Meat Trade.

Because of the broad scope of the above publications, they deal, of necessity, in aggregates. While this is valuable when conducting a preliminary study, it is of little use for making firm recommendations regarding specific markets. To gather this information we must turn to the publications issued in individual countries.

In most countries literature is published by Government bodies. An example here (and by far the best) is the "Livestock and Meat Situation" series published by the Economic Research Service of the United States Department of Agriculture. In addition, the Foreign Agriculture Service of the United States Department of Agriculture has also published "World Beef Trends" (FAS - M - 173 June 1966) which presents a brief survey of conditions in the meat industries in the main exporting and importing countries. The same Department also publishes reviews of the domestic industry in the main meat producing countries. The result of all these publications is that the United States policy makers are able to keep a constant watch on developing trends in the meat industry.

In Australia similar publications are produced. The Bureau of Agricultural Economics (which is a Government department) publishes "The Beef Situation" which regularly reviews current trends in the world beef industry. The Australian Meat Board also presents a brief coverage of the current world beef industry in its annual reports.

In New Zealand there is no Government department which regularly collects and

publishes information relating to the meat industry. Recently an attempt has been made by the New Zealand Meat Board to review current conditions in the industry in its annual reports, but this is still handled inadequately. This lack of regularly published information on factors affecting New Zealand's meat trade means that policy makers must turn to the numerous unofficial publications where the information is repetitive and rarely adequate.

One of the first steps in expanding New Zealand's meat trade must be the establishment of a central market intelligence unit to collect and analyse available information. Without this there can be little hope of co-ordination within the meat industry.

LIST OF TABLES

Table		Page
1	Cattle Numbers in New Zealand.	39
2	Percentage Movement in Cattle Numbers in New Zealand.	40
3	Meat Slaughterings in New Zealand.	41
4	Meat Production and Consumption in New Zealand.	41
5	New Zealand Exports of Beef and Veal to U.S.A. and Japan 1954/5 to 1966/7.	42
6	Beef Exports, New Zealand and Australia Calendar Years 1967 and 1966.	43
7	Minimum Prices for Export Beef.	44
8	World Beef Production.	45
9	Estimated per capita Consumption of Beef.	46
10	Meat: Beef and Veal, Balances by Major Trading Countries and Regions 1961-63 and Projections for 1975.	47
11	World Beef Exports.	48
12	World Beef Imports.	48
13	U.S. Imports, Exports and Net Imports of Beef and Veal and Total Meat in Relation to Domestic Production 1962/67.	49
14	United Kingdom Production, Consumption and Imports of Beef and Veal 1962/66.	49
15	Beef: Selected Indicators of World Market Prices, 1950-65.	50
16	Imports of Beef and Veal : United States 1960 to 1966.	51
17	Imports of Beef and Veal : Canned Meat, Live Cattle. United Kingdom 1960 to 1966.	52
18	Trade in Beef and Veal : Canned Meat : Live Cattle. European Economic Community 1960 to 1966.	53
19	Tariff and Non-tariff Barriers on New Zealand Exports of Chilled and Frozen Beef.	54, 55 & 56
20	Livestock Products : Levels at which Producer Prices were Stabilised or Supported.	57

TABLE 1 CATTLE NUMBERS IN NEW ZEALAND
 1954 to 1968 (000's)
 (1)
 as at 31 January

Year	Dairy Cows in Milk	Beef Breeding Cows	Total Cattle
1954	1,999	743	5,745
55	1,995	809	5,887
56
57	1,998	860	5,309
58	1,967	896	5,886
59	1,931	918	5,973
60	1,887	968	5,992
61	1,929	1,047	6,446
62	1,968	1,113	6,598
63	1,997	1,114	6,691
64	2,011	1,141	6,696
65	2,032	1,120	6,801
66	2,088	1,214	7,218
67	2,131	1,338	7,747
68	2,232	1,448	8,217

(1) On holdings 10 acres and over, outside boroughs.

Source: N.Z. Statistics Department

TABLE 2 PERCENTAGE MOVEMENT IN CATTLE NUMBERS* IN NEW ZEALAND
1967-68 (in 000's)

	Dairy Cows in Milk			Total Dairy Cattle		
	1967	1968	%	1967	1968	%
S.I.	158.8	163.2	+2.8	256.5	268.4	+4.6
N.I.	1972.5	2079.0	+5.4	3249.2	343.0	+5.6
N.Z.	2131.4	2242.0	+5.2	3505.7	3698.0	+5.5

	Beef Breeding Cows			Total Beef Cattle		
	1967	1968	%	1967	1968	%
S.I.	249.2	265.5	+6.6	763.2	822.2	+7.7
N.I.	1088.7	1158.0	+6.4	3477.9	3697.0	+6.3
N.Z.	1337.9	1423.0	+6.4	4241.2	4579.0	+6.6

* These figures have been rounded to the nearest thousand if over one million; to the nearest hundred if under one million.
Numbers are for holdings 10 acres and over outside boroughs.

Source: N.Z. Statistics Department

TABLE 3 MEAT SLAUGHTERINGS IN NEW ZEALAND
(Meat Works and Abattoirs).
(Head of stock '000)

Year ended 30 September	Cattle	Calves
1957	998	1,402
1958	1,063	1,309
1959	927	1,217
1960	923	1,229
1961	964	1,294
1962	1,194	1,409
1963	1,254	1,409
1964	1,258	1,389
1965	1,114	1,227
1966	1,153	1,078
1967	1,201	1,217

Source: N.Z. Statistics Department

TABLE 4 MEAT PRODUCTION AND CONSUMPTION IN NEW ZEALAND
(bone-in weights, '000 tons)

Year ended 30 September	Total Production (estimated)			Consumption in N.Z.		
	Beef	Veal	Total Meat	Beef	Veal	Total Meat
1957	240.2	26.3	669.9	106.0	6.4	227.2
1958	244.0	23.4	687.7	107.9	6.9	231.2
1959	211.3	22.8	731.3	96.0	6.1	237.7
1960	212.8	23.4	752.3	96.6	6.6	250.7
1961	212.0	24.5	757.7	97.0	7.1	249.8
1962	252.6	29.2	821.2	108.1	9.0	270.2
1963	266.2	26.9	827.7	117.1	8.5	282.5
1964	258.9	28.1	852.1	112.7	9.5	283.5
1965	246.7	24.7	822.9	119.0	9.3	281.6
1966	265.3	22.0	829.9	120.8	8.6	276.6
1967	271.4	25.6	890.8	123.3	9.8	283.4

Source: N.Z. Statistics Department

TABLE 5 NEW ZEALAND EXPORTS OF BEEF AND VEAL TO U.S.A.
AND JAPAN 1954/5 to 1966/7

tons

Year	U.S.A.		Japan Total	Total Exports*	
	Bone-in	Boneless		Beef	Veal
1954/5	48	865			
55/6	43	1,397	111		
56/7	842	18,838	15,511		
57/8	9,720	69,420	2,514	106,600	10,700
58/9	9,958	63,097	1,250	95,100	9,300
59/60	1,563	55,642	3,540	85,500	9,000
60/61	1,548	63,835	3,974	86,400	10,100
61/2	2,007	89,312	3,147	86,000	10,300
62/3	1,155	99,350	819	113,800	12,900
63/4	271	69,656	985	107,100	12,200
64/5	71	45,591	2,857	108,700	10,800
65/6	14	61,814	3,454	91,400	8,200
66/7	14	74,203	2,807	97,400	7,200

* Figures have been rounded to the nearest '00

Source: Reserve Bank Bulletins

TABLE 6 BEEF EXPORTS, NEW ZEALAND AND AUSTRALIA CALENDAR
YEARS 1967 and 1966. ALL FIGURES IN TONS

Destination	1967 BEEF & VEAL 1966			
	N.Z.	AUST.	N.Z.	AUST.
United Kingdom	8,814	23,448	18,671	62,463
France	86	104	80	792
Germany	324	39	557	512
Italy	115	213	38	1,678
Belgium	124	334	958	393
Holland	1,229	-	279	-
Other Europe, Gib., Malta and Cyprus	928	1,713	1,000	1,933
Greece	192	216	338	1,484
Egypt	2	16	26	121
Other Middle East	38	1,045	756	1,543
East & Cent. Africa	5	129	-	95
West Africa	29	69	34	113
India & Ceylon	7	27	3	35
Malaysia & Singapore	1,957	2,132	1,653	3,769
Hong Kong	523	391	628	694
Philippines	278	978	329	945
Japan	3,092	12,682	3,284	10,267
New Guinea	0	1,142	16	1,009
Pacific	1,518	524	1,535	487
Guam Island	1,244	-	1,047	-
West Indies	5,088	1,308	5,128	2,217
Canada	2,292	4,214	1,640	2,423
U.S.A. Mainland	76,772	190,387	63,711	185,472
Denmark	-	-	-	-
Hawaii	3,302	-	2,808	-
Norway	-	-	-	-
Peru	-	-	-	-
Sweden	36	799	84	1,560
Australia	1	-	5	-
Switzerland	253	-	-	-
Eastern Europe	-	-	-	-
All other Countries	230	126	80	108
South Africa	1	-	-	-
TOTAL:	108,488	242,036	104,749	280,113

Australian exports to Hawaii are not shown separately in Australian statistics, but are included in U.S.A. figures. Adapted from: Table 18, p.16, New Zealand Meat Markets 1967 N.Z. Meat Producers Board

TABLE 7 MINIMUM PRICES FOR EXPORT BEEF

In terms of Section 12 of the Meat Export Prices Act, 1955, the minimum prices for the basic grades of export beef for the year ending September 30, 1968, fixed by the Meat Export Prices Committee are as follows, with last season's prices for comparison:

Class of Meat to which Basic Grade relates	Basic Grade of Meat	Min. Price cents per lb. of Basic Grade of Beef at F.O.B.	
		North Island 1967/68	1966/67
Chilled Beef	Ox 680 lbs. and under	13.3	13.3
Ox and Heifer Qtr. beef	Good average quality Ox 680 lbs. and under	13.3	13.3
Quarter Cow Beef	Good average quality 600 lbs. and under	10.4	10.4
Boner, Cow, Ox & Heifer	301 lbs. and over)*	16.0	16.0
Boner Bull	521 lbs. and over)*	16.0	16.0
Veal (Sides or quarters)	Under 180 lbs.	11.7	11.7

*Boned out value

Note: Each basic grade of meat in the minimum prices schedule is used as the factor for assessing the deficiency payment applicable to all grades of each relative class of export meat.

Source: New Zealand Meat Producers Board

TABLE 8 WORLD BEEF PRODUCTION
(carcase equivalent '000 tons)

Country	1965	1966	1967
United States	8,814	9,210	9,376
Canada	836	836	814
Mexico	504	519	(N.L.)
U.S.S.R.	3,263	3,513	(N.L.)
Argentina	2,055	2,611	2,559
Brazil	1,473	1,425	1,390
United Kingdom	819	854	908
France	1,502	1,640	1,802
West Germany	1,075	1,146	1,149
Italy	539	641	676
Netherlands	271	270	284
Belgium	190	204	231
Denmark	152	192	215
Sweden	149	162	163
Yugoslavia	180	213	235
Czechoslovakia	455	474	(N.L.)
East Germany	433	490	531
Poland	427	433	499
Australia	949	925	865
New Zealand	271	296	297
South Africa	475	472	476

N.L. = Not Listed

Source: P27, The New Zealand Meat Producer,
Vol. 13, No. 4, 1 January 1969.

TABLE 9 ESTIMATED PER CAPITA CONSUMPTION OF BEEF
(carcase equivalent lb. per head)

Country	Average 1956/60	1964	1965	1966	Total Red Meat 1966
New Zealand	105	104	109	106	229
Uruguay	181	179	198	153	224
Australia	125	104	109	106	198
Argentina	189	144	147	175	207
U.S.	92	105	105	109	171
U.K.	60	56	51	52	138
Canada	77	85	90	90	148
France	65	71	73	74	152
West Germany	39	49	48	49	123
Switzerland	45	52	51	50	116
Denmark	42	36	36	44	120
Ireland	28	33	33	37	117
Paraguay	110	108	106	104	133
Netherlands	40	42	43	44	109
Belgium/Luxembourg	49	54	52	55	120
Sweden	41	43	40	44	102
Poland	23	31	27	27	84
U.S.S.R.	26	30	34	36	76
Greece	8	22	23	25	68
Italy	26	37	35	41	64
Brazil	45	39	39	37	54
Spain	12	17	17	20	56

Source: World Agriculture Production and Trade, U.S. Department of Agriculture, Foreign Agriculture Service, May 1967.

TABLE 10

MEAT: BEEF AND VEAL, BALANCES BY MAJOR TRADING COUNTRIES AND REGIONS 1961-63
AND PROJECTIONS FOR 1975

	1961-63			1975 (Low)			1975 (High)		
	Production	Net Trade	Consumption	Production	Balance	Demand	Production	Balance	Demand
	(. Thousand tons)								
<u>Importers (total)</u>	<u>17,369</u>	<u>1,707</u>	<u>19,076</u>	<u>23,789</u>	<u>2,649</u>	<u>26,438</u>	<u>24,734</u>	<u>3,002</u>	<u>27,736</u>
North America ^{1/}	8,196	652	8,848	11,468	821	12,289	11,840	861	12,701
Western Europe	5,000	936	5,936	6,375	1,275	7,650	6,679	1,395	8,074
E.E.C. ^{2/}	3,570	284	3,854	4,555	538	5,093	4,760	638	5,398
North Europe ^{3/}	1,226	580	1,806	1,504	617	2,121	1,582	610	2,192
South Europe ^{4/}	204	72	276	315	120	436	337	147	484
Japan	155	5	160	246	131	377	265	211	476
Centrally planned countries ^{5/}	4,018	114	4,132	5,700	422	6,122	5,950	535	6,485
<u>Exporters (total)</u>	<u>5,551</u>	<u>-1,775</u>	<u>3,776</u>	<u>7,159</u>	<u>-2,204</u>	<u>4,955</u>	<u>7,507</u>	<u>-2,317</u>	<u>5,190</u>
Western Europe ^{6/}	879	-484	395	1,165	-600	565	1,230	-624	606
Oceania ^{7/}	1,119	-515	604	1,615	-791	824	1,703	-849	854
Western South America ^{8/}	2,805	-701	2,104	3,407	-821	2,586	3,499	-906	2,593
East Africa	748	-75	673	972	8	980	1,075	62	1,137
Total of above countries	<u>22,920</u>	<u>-68</u>	<u>22,852</u>	<u>30,948</u>	<u>445</u>	<u>31,393</u>	<u>32,241</u>	<u>685</u>	<u>32,926</u>

- ^{1/} Canada and United States
^{2/} Including E.E.C. Exporters
^{3/} Finland, Norway, Sweden, Switzerland, United Kingdom
^{4/} Greece, Spain
^{5/} U.S.S.R. and Eastern Europe
^{6/} Austria, Denmark, Ireland and Yugoslavia
^{7/} Australia, New Zealand
^{8/} Argentina, Paraguay, Uruguay

Source: Table 2, p.141 Agricultural Commodities Projections for 1975 and 1985
 Vol. 1. Food and Agriculture Organization of United Nations, Rome 1967 CCP 67/3 (Rev.)

TABLE 11 WORLD BEEF EXPORTS
(Carcase equivalent '000 tons)

	<u>1964</u>	<u>1965</u>	<u>1966</u>
Australia	439	493	490
Argentina	533	416	646
New Zealand	180	158	174
Uruguay	148	100	76
France	90	77	113
Netherlands	86	85	69
Yugoslavia	80	73	93
Denmark	76	73	107
Ireland	69	70	99
U.S.S.R.	62	60	(a)
Brazil	34	69	49
Mexico	32	30	43
U.S.A.	29	24	19
South Africa	28	23	49
Paraguay	24	24	25
Canada	19	46	40
Sweden	(a)	(a)	25
All Others	128	127	244
TOTAL:	2,057	1,948	2,363

(a) Included in "all others"

Source: Foreign Agriculture Circular, U.S. Department of Agriculture, FLM 10-67.

TABLE 12 WORLD BEEF IMPORTS
(Carcase equivalent '000 tons)

	<u>1964</u>	<u>1965</u>	<u>1966</u>
U.K.	506	420	485
U.S.A.	484	417	602
Italy	293	257	330
West Germany	131	161	158
U.S.S.R.	95	(a)	(a)
France	79	64	43
Switzerland	39	31	32
Netherlands	36	31	42
Belgium/Luxembourg	26	20	23
Greece	29	30	43
Spain	22	56	100
Israel	22	22	38
All others	301	372	439
TOTAL:	2,063	1,881	2,337

(a) Included in "all others"

Source: Foreign Agriculture Circular, U.S. Department of Agriculture, FLM 10-67.

TABLE 13 U.S. IMPORTS, EXPORTS AND NET IMPORTS OF BEEF AND VEAL AND TOTAL MEAT IN RELATION TO DOMESTIC PRODUCTION 1962/67 ^{1/}

Beef and Veal					
Year	Production	Imports	Exports	Net Imports	Imports as a Percentage of U.S. Production
	Mil.lb.	Mil.lb.	Mil.lb.	Mil.lb.	%
1962	16,313	1,439.8	32.0	1,407.8	8.8
1963	17,357	1,677.5	32.6	1,644.9	9.7
1964	19,442	1,085.2	64.8	1,020.4	5.6
1965	19,719	941.8	53.9	887.0	4.8
1966	20,604	1,204.2	39.1	1,165.1	5.8
1967 ^{2/}	20,977	1,327.7	42.2	1,285.5	6.3

Total Meat					
Year	Production	Imports	Exports	Net Imports	Imports as a Percentage of U.S. Production
	Mil.lb.	Mil.lb.	Mil.lb.	Mil.lb.	%
1962	29,940	1,738.8	101.5	1,697.3	6.2
1963	30,546	2,047.2	175.8	1,871.4	6.7
1964	32,660	1,431.6	205.0	1,226.6	4.4
1965	31,466	1,347.3	111.2	1,236.1	4.3
1966	32,582	1,721.5	99.8	1,621.7	5.3
1967 ^{2/}	34,195	1,841.1	102.7	1,738.4	5.4

^{1/} Carcase weight equivalent

^{2/} Preliminary

Source: Table 12, p.29 Livestock and Meat Situation No. 161 United States Department of Agriculture, May 1968.

TABLE 14

UNITED KINGDOM PRODUCTION, CONSUMPTION AND IMPORTS OF BEEF AND VEAL 1962/66

'000 tons

Year ended December	Production	Imports	Domestic Consumption	Production as % Consumption
1962	903.7	327.6	1,239.1	72.9
1963	929.2	357.6	1,292.0	71.9
1964	863.2	345.0	1,168.3	73.9
1965	818.0	290.1	1,106.1	74.0
1966	853.9	285.3	1,128.2	75.7

Source: Table 48, p.107, Thirty-second Annual Report the year ended 30 June 1967, Australian Meat Board, September 1967.

TABLE 15 BEEF : SELECTED INDICATORS OF WORLD MARKET
PRICES, 1950-65

Year	U.K. ^{1/}	Australia ^{2/}	Argentina ^{3/}
	U.S. \$ per ton		
1950	300.8	169.8	-
1951	315.7	197.5	-
1952	338.9	251.9	-
1953	405.8	335.2	-
1954	435.7	346.7	440.5
1955	441.9	365.2	428.6
1956	367.2	330.0	452.4
1957	378.7	299.0	452.4
1958	451.8	315.8	435.7
1959	512.7	421.8	516.7
1960	525.3	475.3	507.1
1961	486.2	475.3	452.5
1962	491.4	439.5	442.5
1963	457.0	459.3	450.0
1964	620.7	464.2	647.5
1965	661.6	481.7	682.5

1/. U.K. weighted average of import unit values for boneless beef and chilled and frozen quarter beef.
Source: National Statistics and F.A.O.

2/. Average Australian export unit values (carcase weight basis).
Source: B.A.E. Quarterly Review of Agr. Econs.

3/. Average import prices (c.i.f.) Germany, Fed. Rep. for Argentine frozen quarter beef.
Source: Stat. Jahrbücher Ernährung, Landwirtschaft und Forsten.

As presented in table 4, p.19, Review of Trends and Major Problems in the World Meat Economy. Committee on Commodity Problems Forty-third Session F.A.O. 5 August 1968, ccp.68/9, 23 pp.

TABLE 16 IMPORTS OF BEEF AND VEAL : UNITED STATES 1960 to 1966

Type and Source	1960	1961	1962	1963	1964	1965	1966
	,000 tons	,000 tons	,000 tons	,000 tons	,000 tons	,000 tons	,000 tons
BEEF							
<u>Fresh, chilled, frozen bone-in beef:</u>							
Australia	0.3	0.2	1.1	2.1	1.0	1.0	1.4
Canada	1.7	6.0	2.1	0.8	3.8	11.5	6.3
Ireland	(a)	(b)	0.1	0.1	(a)	(b)	(b)
Mexico	0.9	1.6	1.3	2.3	1.5	(a)	(a)
New Zealand	1.2	1.0	1.5	1.3	0.4	0.2	0.3
Other	2.4	2.4	2.4	2.3	1.3	0.4	0.7
<u>Boneless:</u>							
Argentina	-	-	-	(a)	-	-	-
Australia	63.5	102.7	196.5	227.4	165.9	134.2	175.2
Canada	5.8	7.4	5.8	4.6	6.8	17.6	15.5
Ireland	19.5	26.7	31.5	32.5	8.8	3.5	17.1
Mexico	16.5	22.1	24.7	29.9	20.2	20.6	25.0
New Zealand	51.6	62.1	84.6	95.9	70.1	40.8	59.5
Other	14.4	14.5	22.5	29.8	27.8	22.6	29.3
<u>Veal:</u>							
Canada	0.9	0.9	1.1	2.9	2.2	2.1	2.4
New Zealand	5.5	5.8	9.3	8.4	4.5	5.2	e4.9
Other	0.4	0.7	1.1	1.5	c1.1	d1.1	2.6
TOTAL BEEF AND VEAL:	184.7	254.1	385.4	440.3	315.5	260.8	340.6

(a) Less than 50 tons (b) If any, included in 'Other' (c) Includes 927 tons from Australia (d) Includes 983 tons from Australia (e) Includes 2,242 tons from Australia

Source: "The Meat Situation" No. 12, Bureau of Agricultural Economics, Canberra, Australia, Table 17, p.43, March 1968.

TABLE 17 IMPORTS OF BEEF AND VEAL : CANNED MEAT, LIVE CATTLE.
UNITED KINGDOM 1960 to 1966

Type and Source	1960	1961	1962	1963	1964	1965	1966
	,000 tons	,000 tons	,000 tons	,000 tons	,000 tons	,000 tons	,000 tons
<u>BEEF</u>							
Fresh or salted	13.8	30.0	20.3	17.4	17.3	25.9	35.2
Chilled:							
Argentina	181.3	138.9	157.5	201.3	128.5	94.6	108.4
Australia	1.7	1.5	1.7	-	0.3	0.1	0.1
New Zealand	1.5	0.7	0.3	-	0.7	0.6	0.1
Uruguay	20.6	12.8	10.3	26.3	20.7	2.8	6.9
Yugoslavia	0.8	15.2	34.1	12.3	13.0	5.5	3.4
Rhodesia	1.3	3.5	4.7	4.7	3.3	3.7	-
Other	0.6	2.6	5.0	3.2	1.9	3.0	4.3
Frozen (fore and hindquarters, including cuts with bone):							
Australia	24.3	11.0	8.7	3.0	10.8	8.1	2.6
New Zealand	16.0	8.8	5.6	1.2	14.8	12.1	7.6
Argentina	19.9	10.4	18.9	25.6	18.5	11.9	8.0
Uruguay	11.7	7.2	6.5	14.2	11.0	1.4	3.2
Rhodesia	1.4	1.6	0.6	-	-	-	-
Other	3.4	2.5	5.2	4.7	1.4	0.4	1.4
Boned and boneless including cheeks and skirts:							
Australia	37.4	18.5	22.6	14.1	70.8	80.7	64.0
New Zealand	0.8	1.0	0.6	0.7	9.9	16.2	11.2
Argentina	2.3	3.4	4.5	8.7	2.1	1.1	1.7
Bechuanaland	4.2	6.2	4.8	6.6	5.5	9.1	9.9
Other	4.5	6.6	9.6	9.3	8.2	7.5	14.7
<u>VEAL</u>							
Australia	1.1	1.2	1.9	1.2	2.7	1.8	1.2
New Zealand	1.8	1.6	1.0	0.2	0.8	0.4	0.3
Netherlands	2.6	2.5	3.0	2.6	2.2	2.2	0.6
Other	-	0.2	0.3	0.2	0.6	0.3	0.8
TOTAL BEEF AND VEAL:	352.8	287.9	327.6	357.6	345.0	289.3	285.3
<u>CANNED MEAT</u>							
Australia	28.3	22.5	17.7	10.0	13.2	12.9	9.9
Argentina	21.8	26.0	26.8	26.3	18.2	9.1	14.0
Denmark	30.5	34.1	35.2	35.0	33.8	35.2	37.6
Netherlands	36.4	37.4	32.9	32.4	39.2	37.1	39.1
Yugoslavia	16.9	17.1	14.9	11.5	14.6	12.7	9.4
Poland	10.1	11.6	11.7	12.7	12.7	11.0	10.2
Other	43.8	49.2	48.3	41.9	44.2	41.1	43.9
TOTAL CANNED MEAT:	187.8	197.9	187.5	169.8	175.9	159.1	164.1

NOTE: Totals may not agree because of rounding.

Source: "The Beef Situation", No. 12, Bureau of Agricultural Economics,
Canberra, Australia, Table 15, p.14, March 1968.

TABLE 18 TRADE IN BEEF AND VEAL : CANNED MEAT : LIVE CATTLE :
EUROPEAN ECONOMIC COMMUNITY 1960 to 1966

Type of Meat or Live Cattle and Importing Country	1960	1961	1962	1963	1964	1965	1966
	,000 tons	,000 tons	,000 tons	,000 tons	,000 tons	,000 tons	,000 tons
BEEF AND VEAL							
Importing country:							
Belgium-luxembourg	7	13	17	19	22	17	14
France	27	11	9	16	72	58	36
Italy	135	53	93	255	283	249	273
Netherlands	14	21	21	17	30	24	32
Germany, Fed. Rep.	64	82	104	90	116	145	124
Total imports:	247	180	244	397	523	495	479
Total exports:	122	137	202	181	152	142	156
Net imports:	125	43	42	216	371	353	323
External sources:							
Argentina	52	66	86	128	192	126	121
Denmark	52	9	29	65	51	49	51
Yugoslavia	9	3	9	37	36	43	38
Others	42	23	24	47	120	153	142
Total:	155	101	148	277	399	371	352
Inter-community trade	92	79	96	120	122	115	126
CANNED MEAT							
Importing country:							
Belgium-Luxembourg	2	2	2	3	4	5	4
France	2	2	2	3	5	6	7
Italy	5	5	6	10	7	7	8
Netherlands	2	2	2	4	5	5	6
Germany, Fed. Rep.	18	20	19	24	34	40	45
Total imports:	29	31	31	44	55	63	70
Total exports:	95	98	89	79	89	93	112
NET EXPORTS:	66	67	58	35	34	30	42

Source: "The Meat Situation", No. 12, Bureau of Agricultural Economics, Canberra, Australia, Table 19, p.45, March 1968.

TABLE 19

TARIFF AND NON-TARIFF BARRIERS ON NEW ZEALAND
EXPORTS OF CHILLED AND FROZEN BEEF

The information included herein has been compiled from available sources as at February 1968. While care has been taken to ensure that the information is as complete and as accurate as possible, the New Zealand Meat Producers Board points out that these particulars are published only as a guide.

Percentages given in tariff barrier columns are "ad valorem" unless described otherwise.

Money values given are in New Zealand currency and are approximate only.

BEEF AND VEAL PRODUCTS

Country	Tariff Barriers	Non-Tariff Barriers
Australia	10%	Each state has its own certification and marking regulations.
Austria	32% for meat other than carcasses. Veal carcasses below 85 Kg. (unskinned) & other bovine carcasses, sides or quarters (bone-in) : 4½c per lb.	Veterinary regulations. Import licensing. No cuts smaller than 11 lb.
Bahrein	Free	Veterinary regulations only.
Barbados	0.3c per lb.	Veterinary regulations only.
*Belgium & Luxembourg	20% (1.7.68.)	Veterinary regulations. Import licensing. (Licenses are only available when domestic prices are high). Cuts Prohibited. Minimum weight of 22 lb. per portion.
Bermuda	1c per lb.	Veterinary regulations only.
Canada	5c per lb.	Veterinary and labelling regulations.
Ceylon	15%	Veterinary regulations. Import licensing - open general license.
Cyprus	Free	Veterinary regulations only.
Denmark	Free	Veterinary regulations. Import licensing. Global quotas.
*France	20% (1.7.68.)	Veterinary regulations. Import licensing. Frozen beef prohibited.

BEEF AND VEAL PRODUCTS

Country	Tariff Barriers	Non-Tariff Barriers
Fiji	Free	Veterinary regulations only.
French Polynesia	5% on C.I.F. + 2% tax +20 francs per ton	Veterinary regulations. Import licensing.
*Germany, West	20%	Extensive veterinary regulations. Import licensing. Cuts prohibited.
Gibraltar	Free	Veterinary regulations. Import licensing.
Ghana	40c per lb.	Veterinary regulations. Import licensing.
Greece	20% official tariff at present suspended.	Veterinary regulations only.
Hawaii	2½c per lb.	Veterinary regulations. Quota.
Hong Kong	Free	Veterinary regulations. Import licensing, but licenses freely obtainable.
Iran	4½c per lb.	Veterinary regulations. Iranian Government specification of method of payment.
Israel	Bone-in: 35 c per lb. Boneless: 60c per lb.	Veterinary regulations. Import licensing.
*Italy	20%	Veterinary regulations.
Jamaica	15% + 1.5% surcharge	Veterinary regulations. Import licensing - open general license.
Japan	25% + variable levy	Veterinary regulations. Quota for beef.
Jordan	Import licensing fee only.	Import licensing.
Kuwait	4%	Veterinary regulations. Import licensing.
Leeward Islands, etc.	Free	Veterinary regulations only.
Malaysia	Free	Veterinary regulations. Import licensing.
Malta	180c per lb.	Veterinary regulations. Internal price controls.
*Netherlands	20% (1.7.68.)	Veterinary regulations. Import licensing. Cuts prohibited.
Nigeria	50%	Veterinary regulations. Import licensing.

BEEF AND VEAL PRODUCTS

Country	Tariff Barriers	Non-Tariff Barriers
Norway	5c per lb.	Veterinary regulations. Import licensing. Licences are likely to be granted only when local supplies are inadequate.
Okinawa	5%	Details not available.
Panama	12c per lb. + 2%	Veterinary regulations only.
Philippines	15%. Processing Meat:50%	Veterinary regulations only.
Portugal	7c per lb.	Veterinary regulations. Import licensing. Quotas.
Singapore	Free	Veterinary regulations. Import licensing.
South Africa	3c per lb.	Veterinary regulations. South African Meat Board has statutory power to forbid or allow meat imports and would only permit them in conditions of acute scarcity.
Spain	18%	Veterinary regulations. Import licensing. State monopoly control of all imports.
Switzerland	1½c per lb.	Veterinary regulations. Import permits required. Cuts prohibited.
Taiwan	60%	Details not available.
Thailand	40c per lb.	Veterinary regulations only.
Trinidad and Tobago	2½%	Veterinary regulations. Import licensing.
United Arab Republic	5% "statistical tax"	All imports are subject to approval by Government Planning Committee.
United Kingdom	Free	Veterinary regulations only.
United States of America	2½c per lb.	Veterinary regulations. Quota.

*NOTE: E.E.C. Countries - In all cases variable levies are superimposed on duties. Periodically, duty and levy concessions have been permitted on beef imports for manufacturing purposes, under Customs supervision; the E.E.C. countries are committed to a GATT agreement to open each year an overall import quota for 22,000 tons of frozen beef, at a maximum duty of 20% and free of levy.

Source: Table 33, pp. 29-32 New Zealand Meat Markets 1967.
New Zealand Meat Producers Board. March 1968.

TABLE 20

LIVESTOCK PRODUCTS : LEVELS AT WHICH PRODUCER
PRICES WERE STABILISED OR SUPPORTED

Country	Remarks	Unit of measure- ment	National Currency		US\$ per quintal (100 kg).	
			1966 or 1966/67	1967 or 1967/68	1966 or 1966/67	1967 or 1967/68
<u>Cattle</u>						
Belgium	live weight					
	cattle	F/kg	32.10	32.60	64.20	65.20
	calves	F/kg	40.00	41.38	80.00	82.75
Canada	live steers					
	good grade	Ca\$/cwt	18.19	18.75	37.21	38.31
Denmark	beef and veal	Kr/kg	5.45	5.63	78.91	80.79
Finland	dead weight	Mk/Kg	4.05	4.33	126.56	128.16
France	live weight					
	cattle	Fr/q	302	315	61.17	63.80
	calves	Fr/q	412	427	83.45	86.49
Germany, Fed.Rep.	live weight					
	cattle	DM/q	253	259	63.25	64.75
	calves	DM/q	336	347	84.00	86.75
Italy	live weight					
	cattle	Lit/kg	402	410	64.38	65.70
	calves	Lit/kg	516	530	82.65	84.93
Kenya	beef grade 1					
	GAQ	Sh/lb	1.40	1.47	43.21	45.37
	veal grade A	Sh/lb	2.05	...	63.27	...
Luxembourg	live weight					
	cattle	Flux/kg	31.5	31.5	63.00	63.00
	calves	Flux/kg	42.5	42.5	85.00	85.00
Netherlands	live weight					
	cattle	Fl/kg	222	226	61.33	62.43
	calves	Fl/kg	290	307	80.11	84.81
New Zealand	ox or heifer	\$/lb	13.3	13.3	40.87	39.88
Norway	beef grade	1Kr/kg	8.10	8.30	113.40	116.20
	veal	"	9.25	...	129.50	...
Sweden	middle price	ore/kg	679	712	131.25	137.63
Tunisia	good qual. beef	D/kg	0.345	...	66.34	...
	good qual. veal	D/kg	0.48	...	92.30	...
United Kingdom	live weight	sh/cwt. (112 lbs)	184	189	50.71	52.08
Yugoslavia	live weight					
	grade 1A					
	cattle	D/q	650	650	52.00	52.00
	calves	D/q	740	740	59.20	59.20

Source: Annex table 3, p.21, F.A.O. Committee on commodity problems 43rd Session
Developments in agricultural price stabilisation and support policies
1966 and 1967 CCP 68/6, 17 July 1968.