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BEEF PRODUCTION & MARKET- ING IN RELATION TO THE OVERALL OBJECTIVE OF INCREASED MEAT SUPPLY

By A. ROWLANDS.

W. & R. Fletcher (N.Z.) Ltd., Meat Exporters, Wellington.

WHAT is the relative standing of beef to other meats in the world's markets? In all the main countries and big centres, the population who are meat-eaters at all think in terms of beef first, then pork—in some cases horse flesh—and then veal would follow before mutton and the occasional luxury item, lamb; the latter used for an occasional change and for special circumstances.

Great Britain is the exception; pre-war, frozen mutton and lamb, when not too dear, were a steady item in the meat budget—at any rate with the white-collar population of the cities, and to the extent of 25% of her total meat consumption.

In the five years 1929-33—pre-Ottawa Treaty—

	Total Consumption Tons.	Per Head lb.	Beef & Veal Tons.	Per Head lb.	Consumption	
					Pig meats Tons.	Mutton & Lamb Tons.
U.K.	2,850,000	140	1,350,000	66	900,000	600,000
U.S.A.	7,300,000	126	3,560,000	61½	3,380,000	360,000

Beef, we stress, has a world-wide market and is restricted by the all important question of price. It is the working man's meat.

Great Britain and her overseas settlements, her military establishments, shipping and tourist hotels were, in normal times, almost the sole reliable outlets for New Zealand meat—in fact, the **only** regular outlet for lamb. Actually, New Zealand never shipped enough beef to really become a factor in the U.K. beef trade; 45,000 tons out of a total beef consumption of 1,350,000 tons.

I won't bother you with what might be interesting, but purposeless, statistics of other countries. World meat production is down in 1948 against 1934-38 average of 1,290,000 tons=4%.

Britain could always pay either in cash or kind, and always provided a **free** market for our meat. The U.S.A. could certainly pay, and her level of values was usually well above Britain, but she had protective walls higher, in some categories, than the average f.o.b. value at point of origin, and if that did not prove a complete bar, there were health regulations, abattoir hanging fees, or sales taxes to raise the barrier to an insurmountable point. We've bought a lot of hard experience shipping beef and lamb to the United States; I've been there three times myself to clear up the mess—a meaty story, I wish there was time to tell you about it.

Britain always was the only real market, and in the 20's she was drawing, I recollect, around 550,000 tons of high quality beef from Argentina and Uruguay, and 30,000 tons of poorer quality from Brazil, practically all chilled.

The Argentine beef was the backbone of the imported meat trade. At that time, Australia supplied 80,000 tons and New Zealand 30,000 tons—all frozen; much of it, in the case of New Zealand, boneless cow and bull beef used for manufacturing purposes only.

I'll let you into a secret. That wonderful Argentine Plain and its cheap beef production was a vital factor in the marketing of New Zealand lamb at a high price. There is the clearest evidence that the English housewife has a budget—plenty of reasonably priced beef and she could afford some New Zealand luxury lamb—dear beef, and the resistance to pricey cuts of lamb was at once in evidence.

To complete the historical picture, in 1932 the Ottawa Treaty took the right to curtail Argentina and Uruguay by 150,000 tons of beef over a three-year period, by the so-called quota system, on the plea that the Dominions should have the opportunity of shipping experimental quantities of beef chilled.

Up to this time, it had **not** been found possible to ship chilled beef from Australia and New Zealand to U.K. on account of the time factor. The Blue Star Line research on the Argentina run, in co-operation with the Cambridge Low Temperature Research, had just at that time, developed a technique with CO₂ gas which inhibited moulds and made a dramatic extension of the period during which beef could be safely held after slaughter.

New Zealand and Australia started at once to ship chilled beef. New Zealand reached (before the War intervened to stop the chilled beef trade completely): 22,000 tons chilled and a slight rise in the total beef (chilled and frozen) to 50,000 tons.

(Note.—The War was a tragedy for our beef trade. It was just beginning to be realised by the discriminating British public that the best New Zealand chilled beef was nearly equal in flavour and texture to the very best in the trade—Scottish beef, and why not—it is fattened on English grasses).

Australia: 30,000 chilled and a total of 120,000 tons.

South Africa: 7,000 tons chilled and a total of 7,000 tons.

Total Empire Imports: 59,000 tons chilled and 118,000 tons frozen.

The growth of the Argentine city population, the effect of the Ottawa Treaty, and the growth of outside markets, reduced the Argentine shipments in 1938-9 to 400,000 tons. Then with the war, Argentina and Uruguay frozen beef shipments to Great Britain by war exigencies—that is political and labour factors very similar to those operating in New Zealand,—dropped still further, until in 1948 they were down to 190,000 tons.

Beef, gentlemen, as you have had pointed out, is, when he can get it, the working man's principal article of diet, and it is also that of the soldier, the sailor and the airman, but there is available only 360,000 tons against the pre-war 600,000 tons imported, and of home killed only 470,000 tons against 800,000 tons—a drop of 570,000 tons.

Britain sacrificed her livestock to grow grain which feeds so many more mouths, and to produce milk—so much more important to short rationed children and invalids.

The beef price was not so important in the U.K. over the war years—grain, milk, potatoes, green vegetables, hops, soon got premium prices, but the farmer, wherever he could, went on keeping cattle and feeding them in the winter—not to produce beef at a loss—no, for the dung and muck which was the “sine qua non” for successful cropping, grass production, potatoes, etc., and on these, the profitable return covered all.

Post-war, to bring beef production back to something like relativity, the price of ox beef to the producer was raised to 102s 9d live cwt., making dressed beef say 1s 9d lb. wholesale.

The New Zealand Meat Producers' Board price for prime ox beef to producers is 47/6 to 51/- per 100lb. dead weight; say 5 7-8d lb. For most of the war period it was only 35/- per 100lb.—4½d per lb.

The New Zealand Price Tribunal wholesale price at date is 6½d lb.

What was the relativity of prices pre-war: the average was for the five years pre-war, on the basis of the Incorporated Society's Smithfield average weekly prices:

New Zealand Chilled Beef	....	....	3.92d per lb.	
New Zealand Frozen Beef	....	....	3.32d per lb.	
New Zealand Wether Mutton	....	....	5.00d per lb.	(49/56)
New Zealand Ewe Mutton	....	....	3.55d per lb.	
New Zealand Lamb	....	....	7.47d per lb.	(Av. U/42)

Has relativity of price any important bearing on the volume of production of the various classes of meats? The answer, of course, is that "it is money which makes the mare go." By and large, it is a question of what pays the farmer best; he will be using his brains to put his labour and his land to the best advantage.

It is interesting to see the effect of war conditions upon a country which preserved the greatest amount of freedom of trade and comparative absence of control during the since-the-war period.

	Prices		Production		%
	From	To	From	To	
Beef	.... \$16½	\$46	3,560,000 tons	5,370,000 tons	Up 51 %
Pork	.... \$10	\$33	3,870,000 tons	4,730,000 tons	Up 22½%
Lamb	.... \$20	\$48 L. & M.	390,000 tons	358,000 tons	Down 8%

being 7,820,000 tons 10,458,000 tons—increase of 33½%.

Here we have, despite the shortage of labour created by the war, the most phenomenal increase in the cattle and in the pig population of the U.S.A. in all history, and the greatest production of dead meat.

In New Zealand, the movement of schedule prices and export was as follows:—

	1939	1948-9	1939	1948	
				Exported	
Beef from	.... 3½d	to 5½d	58,251 tons	79,504 tons	+ 36%
				(this resulted partly from the extremely dry season; the figures this season are sharply down to 58,460 tons.)	
Mts. Weth.	.... 4½d	7½d	61,381 tons	66,905 tons	+ 9%
Ewes	.... 2½d	5½d			
Pork	.... 6d	9½d	23,303 tons	15,392 tons	— 34%
Lamb	.... 7½d	12½d	143,153 tons	181,975 tons	+ 27%
	a total of		236,088 tons	to 343,776 tons	
				an increase overall of	20%

(Note: It will be noted that the beef differential with lamb was—

In 1939	....	....	....	....	3½d
In 1949	....	....	....	....	6½d

It has to be remembered, of course, that in the case of cattle, hides have a big bearing on the return to the producer, and in the case of sheep and lamb, the pelt and the wool.

In the Dominion, the hide and the pelt with the meat, have been stabilised at comparatively low values—wool was allowed to advance fairly steadily, and finally was freed and reached extreme prices at the commencement of the current season.

The decision to stabilise meat prices on the 1938-9 average and, later, the percentage advances on that schedule amounting in all to 70%, was unfortunate for beef and created a serious anomaly. The final result to the producer in buying schedules on the hooks was—

an advance of 2½d per lb. on Beef	equal to 73%
an advance of 5½d per lb. on Lamb	equal to 72%
an advance of 3½d per lb. on Wether Mtn.	equal to 82%
an advance of 3½d per lb. on Ewe Mutton	equal to 139%

It requires only a very cursory examination of these figures to show that in New Zealand, and, only to a slightly lesser degree in all other countries dependent upon Britain, such as the Argentine, Uruguay and Canada, the control by bulk buying contracts has failed to take proper recognition of the relative importance of beef in the food situation and this is an important factor in the meat shortage in the U.K. over recent years.

This brings us to the real issue which should be before every farmer to-day. How to give Britain more meat, the best value in meat, and quickly. Scientists have shown that the cattle beast is more efficient than sheep in converting stock feed into calories of human food. Calculated on British feeding methods, to produce as human food 1000 calories, requires the consumption by various classes of livestock of the starch equivalent of—

Dairy Cow	2.9 lb. (milk basis)
Pig Meat	2.9 lb.
Poultry	6.7 lb.
Beef	7.8 lb.
Mutton and Lamb	11.6 lb.

Per pound of weight, beef is, in food value, 50% greater than lamb; that is, taking the average amount of edible meat obtainable from the same carcass weight of beef as compared with carcass weights of mutton and lamb. (See Appendix "A.").

Argentina cannot, for years, pick up her shortage of 240,000 tons beef, Britain hers of 330,000 tons. Australia and Africa will find it difficult to increase their shipments to Britain. The opportunity for New Zealand to help fill Britain's great vacuum for beef, to the tune of 570,000 tons, is clear to see, but Britain has to consider every penny of expenditure on food imports. The nutrition value of one pound of beef is equal to 1½lb. lamb.

1lb. of N.Z. beef at present costs Britain landed in the U.K. 7½d
 1½lb. of N.Z. lamb at present costs Britain landed in the U.K. 1/7½d
 Is it not fairly obvious that New Zealand would be on a very much sounder economic foundation shipping more beef so badly needed and not tending to throw all her eggs into one basket, as it were, in her meat shipments, viz.: lamb. The prospects of having to sell the old ewe at a low price in times when food is plentiful has to be set against the attractiveness of the lamb trade.

Can the beef exports of this country be developed without the sacrifices of our sheep and lamb population and our present export figures in lamb, mutton and wool?

The answer is "Yes"; and I would like to make right here my point that I do not wish to appear to belittle, or in any way detract

from the full appreciation of the importance and value of New Zealand's great sheep industry. I want to show you how we can add to it and give it greater security.

The secret of successful sheep husbandry—if not for the whole of the Dominion, certainly for most of the North Island and for Southland and Westland—is to run a cattle beast, according to the country, at least one to every 12, if not one to every 8 sheep, and only by the use of cattle can a very considerable portion of the so-called “marginal” land of the North Island be brought in and kept grassed.

We all know it was the fall in beef values which set back a lot of the hill country and the return to more remunerative values during the war has not had the effect it should have had for want of suitable labour, materials for fencing, and water supply, and for the reason that the small nett return to the larger producer after taxation gave very little encouragement to him to take on the risk and the heavy work and responsibility involved.

The effect upon farm development in the Union of South Africa of water conservation, fencing, afforestation and other farm improvements being allowed by tax authorities as a charge against revenue, has to be seen to be believed.

Every knowledgeable cattle man with whom I have discussed this question, has agreed that a big expansion of beef production is possible and would, in the long view, increase the sheep carrying capacity of the country. What does Mr. Rowland Graham say about it—I quote from the splendid article on “The Place of Cattle in Hill Country Farming” in the Sheepfarming Annual 1948:

“That taken as a whole, the Gisborne and East Coast lands would be the better for a reduction in the total flocks and an increase in total herds: that the district is capable of producing a vastly greater weight of high quality beef and that this can be done with little, if any, reduction in the present output of wool or meat.”

A great many cattle men say that we should be able, at least, to treble our beef production—double it, and we would be in the region of an additional 160,000 tons. At present values this is worth to the Dominion £8,500,000 at the present frozen price.

Many students of the problem think that for the first few years this might mean some reduction in our ewe population, or, at any rate, the sacrifice of some of the wether fattening potentialities of certain areas. Their reason for thinking this is that to produce this additional quantity of beef cattle would, under the present practice, necessitate doubling, perhaps trebling, the present holding of 769,000 beef type station cows. I think, however, that in the near future, following Britain's example, the New Zealand farmer will make a lot more use of artificial insemination and so, instead of breeding Jersey and Holstein calves for killing as “bobbies,” there is the possibility of producing beef types of calves in large numbers and there is also the discovery of hormone injection for ensuring twin calves.

Here is what Dr. Hammond says in “The Improvement of Cattle”:

“Both pure-breeding and cross-breeding have their proper place in the cattle industry, but each should be used only in its proper place. For beef cattle, where all the progeny are to be slaughtered, cross-breeding has distinct advantages, and the cattle breeder might follow certain of the sheep-breeding practices in this respect. In the first crosses between two pure breeds the defective characters in each tend to disappear and the good ones to be dominant. Thus

in New Zealand it is a common practice, where Aberdeen Angus cattle are bred, to run a second herd of the culled poor type cows and mate them to a Hereford bull, by which means not only is the stock of purebred Aberdeen Angus improved but also good commercial beef cattle are bred from rather inferior dams."

This situation is going to be greatly helped by the remarkable success of the new Penicillin remedies for mastitis and the new vaccination method of dealing with contagious abortion disease. The effect on the offerings of discarded dairy cows during the current milking season has been most noticeable. It will be found at the end of the season that there has been a very much smaller kill of boner cows and we shall find, therefore, a much larger number remaining in the herds this winter, and for the future a much better replacement rate.

There are in the Dominion 1,700,000 dairy cows—a 20% replacement rate requires only 340,000 yearly. The number of bobby calves killed each year is close to 1,000,000. Is this not a great potential source of crossings for beef type cattle?

What is the driving force which would bring about these results? A proper relativity between the price of beef and that of butterfat and lamb, and a fair return on beef breeding and fattening. As I have said above, only the artificiality of the bulk buying system has prevented this adjustment of price taking place before now.

In passing it has to be noted that there is a particular resistance in the Dominion to such an adjustment. Somewhere about 50% of the production of the beef animals available for killing each year is needed to meet the requirements of local trade and the Marking Order in the present prosperous condition of the Dominion has swung the demand on to the best class of beef and mutton, leaving less of the good quality and more of the poorer quality for export. Only 3% of the lamb is used locally.

In the circumstances, it was realised that any increase in the beef price affected the cost of living considerably more than increases in the lamb price, but it would be a very narrow viewpoint to take to allow this to influence the question of policy, which is of much importance to the Dominion.

What would be the effect of increased supplies of beef upon the local market—a level price at export level, throughout the year. What would be the effect of increased supplies upon our overseas market? We have made it very clear that in present circumstances another 160,000 tons of beef for the United Kingdom would be the most welcome addition to her food supplies which could possibly be imagined.

It is amusing to read such advertisements as appeared in the story from Harvey Blanks recently, with Continental Ads. in the United Kingdom press—"The Scenery is not enough"—Monthly Magazine announced:

"Lakeside villa, Managgio, Como, offers bacon and eggs and beef steaks in liberal portions, with wonderful views of Switzerland and Italian Lakes."

"Fontainebleau Hunting Lodge, outside Paris, allows the tourist to choose his steak from a silver platter and watch it grilled before his eye, while there are many pleasant forest walks in the vicinity."

How are we going to make this beef attractive enough to be worth the money when the Englishman can again buy beef steaks? **ONLY BY SHIPPING IT CHILLED**, for which he will pay a consider-

able premium over what it would bring shipped frozen—or we may in some cases ship it quick frozen or deep frozen. Some points in New Zealand will no doubt find quick frozen beef the more profitable and some markets undoubtedly will pay for the extra cost and facility which this new system provides, but the main step forward which the Dominion can take in her meat trade, appears to me to be the development promptly of this large additional volume of beef business, justifying the offering of inducement to the shipping companies to cater for its shipment chilled. The extra volume of meat which we envisage would justify the special refrigerated tonnage necessary, and I think the traffic would bear a rate of freight which would compensate for the very expensive type of vessel called for.

At the risk of being classed as a crank or a visionary, I have propounded previously the conditions which would make it practicable to transport to the United Kingdom according to the best practice this large volume of beef, and that is, to timetable a regular chilled beef service on a four-weekly basis, so that we reach a point where we have one or more of these fast vessels clearing some point in New Zealand every Friday or Saturday, and one of them breaking bulk in London and/or Liverpool, every Sunday, so that fresh New Zealand chilled beef could be delivered regularly to the British metropolitan and country butcher every Monday morning, and thereafter through the week as required. Chilled beef with our present knowledge, can only be delivered in really good condition in the United Kingdom up to about 30 days; this means a 19-knot ship and a 28-day transit time, but think what it would mean to the Dominion to have fresh beef to deliver to the British butcher every Monday morning and that regular weekly delivery would, without a doubt, lead to a regular weekly delivery in the United Kingdom of every other class of New Zealand produce—her butter, cheese, lamb, fruit, etc., fresh ex ship instead of ex United Kingdom cold stores, with all the additional expense and loss of bloom. It cannot be too strongly stressed—with the shopkeeper in a position to draw regular fresh, reliable, orderly supplies of New Zealand beef, etc., quite a revolutionary expansion and improvement of New Zealand produce marketing generally would take place, with a reduction of costs, an improvement in quality, and reliability in demand. It will be appreciated that only a big volume of chilled beef would justify and support such a service.

Of course, there are lots of difficulties; but I think you will agree with me that that is all the more reason why we should make the worthwhile effort to overcome the minor difficulties which have to be surmounted in bringing about such a valuable development. I am sure when you, as expert students of animal production, cast your minds over the alternatives by which we can get a substantial accession in our meat exports, you will realise that this emphasis on beef is by far our best bet. To think in terms of lamb might look easier in the short-term view, but on further investigation there is overwhelming evidence that a substantial development in beef production would give a far better balance to our economy, make a sharp improvement in our grass-land farming, and give greater stability to our meat price levels. In Mr. Cockayne's opinion, it would save the country, before many years are out, a million a year in imported fertiliser.

Also, I again stress, gentlemen, it is sure to find a most receptive market, and—most important of all—if we of the sterling area could supply that additional 160,000 tons of meat it would greatly assist Britain to pull her weight in the international trade war, earn her way back to solvency, and New Zealand and the other Commonwealth countries which are completely dependent upon her, into safety and financial security at the same time.

APPENDIX.

RELATIVE FOOD VALUE OF BEEF AS COMPARED WITH MUTTON AND LAMB

E. Neige Todhunter, M.H.Sc. (N.Z.), Ph.D. (Columbia), gives the following figures in "Everyday Nutrition" (p.28).

1. Requirement of First-class Protein.

Showing the fraction of the day's requirement of 37 grams of first-class protein obtained from the servings of different foods—
(Adapted from the memorandum of the Ministry of Health Advisory Committee on Nutrition).

Foods	Amount	Fraction of Protein Requirement supplied
Beef	4 ounces	$\frac{1}{2}$
Mutton	4 ounces	$\frac{1}{3}$
Pork	4 ounces	$\frac{1}{2}$
Liver (calf)	4½ ounces	$\frac{1}{2}$

2. Recently F.A.O. prepared food balance sheets for selected countries, including New Zealand. Their figures indicate the following:

100 grams of beef yields	225 calories
	14.7 gms. Protein and
	18 gms fat.
100 grams lamb & mutton	187 calories
	11.9 gms. protein
	13.9 gms. fat

(Lamb and mutton have been lumped together, which is apparently a common practice with nutritionists in calculating food value tables.)

Discussion on Mr. Rowland's Paper

Mr. BULL: The bulk of beef herds would present a difficulty. At present I understand that certain firms have been offering up to 8d for early veal. In the Waikato quite a lot of the bigger places are fattening only female cattle. They say they can fatten three heifers to every two steers and that will eventually affect the supply of beef cattle.

Mr. ROWLANDS: The man who wants restrictiveness applied to beef is a man who usually buys store stock. The thing is to apply the incentive to the man who is the breeder and the only way to make a regular supply of store stock is to make breeding of cattle popular at every stage of the game. Give a good price for the store stock at every stage and the breeder will be in the business whether there is a drought season or otherwise.

Mr. BLAIR: If Mr. Rowlands' scheme of weekly shipments of chilled beef could be brought into being I take it he would not be shipping chilled beef from the Port of Auckland.

Mr. ROWLANDS: I do not think any temporary difficulties of that kind should outweigh our taking a statesmanlike long view of the future of this country.

Mr. MITCHELL: I was very interested in the speaker's remarks. Hitler, I think, adopted an idea which was very successful. He did not tell the farmers to grow what he wanted. He raised the price of the commodity required and depressed the price of the commodity not required. That worked excellently especially with the farming community.

Dr. HAMILTON: I agree with Mr. Mitchell that the most effective way of getting what is wanted is through the price mechanism. At the present time, however, we are working under Government contracts and for any such change to appear there would have to be some organisation in the Government or in New Zealand that would determine long-term policy and price differentials. That seems to me to have very grave dangers. If that price differential is determined by the consumer in England, then I think it is perfectly sound. The old story that the consumer is always right, is true I think most of the time, but if it is done artificially by somebody deciding on a certain policy without due consideration of the requirements of the country as the consumer sees them, I think it has very grave dangers. The speaker has suggested the desirability of sending this increased meat in the form of chilled beef. As I understand the situation, the British Food Ministry which represents the United Kingdom consumer has rather strong views on the question of chilled beef. Their feelings I understand are that chilled beef has no place in the present system of meat shortage in England and I have heard it suggested, that it is unlikely that we shall get away from frozen beef for upwards of ten years. At the present time the authorities, who are our buyers, are strongly opposed to any suggestion of changing from frozen to chilled beef.

Mr. ROWLANDS: Dr. Hamilton has raised a very interesting point. He is perfectly correct that it is not possible to ship chilled beef under rationing conditions. I think to-day the Government does not want to raise the question as to who is going to get frozen beef and who chilled beef. If the public is allowed to get choosy the Argentine is going to send its meat chilled. We have got to be prepared to do that too and get our share with those people of the high price trade with a very important section of the British people.

Dr. McMEEKAN: It is very encouraging to meet an enthusiast in other than purely scientific circles. I can only hope that Mr. Rowlands will have more success than some of the scientific people have with the views of the farming population. Personally, I doubt whether he will be any more successful than we are. There are one or two things he has raised on which I would like to express my own personal view. My comments are a follow-up of Dr. Hamilton's. I believe that the country which can produce at the cheapest price will survive longest in the market. I believe also that the history of meat production in New Zealand in the past has been one which has permitted us to place on the British market, cheap lamb relative to the demand, lamb of a type that could be bought in large quantities, whereas we have only been able to place on the British market expensive beef. I believe that, for this reason, beef cattle in New Zealand over the vast majority of grazing country have a primary function in maintaining that country in a reasonable condition from a pasture point of view. On all the country subject to second growth, of which perhaps the greatest bulk of the North Island is a type, the cattle must be there for that job alone. Those conditions are not conducive to the production of the type of beef that will enable us to compete in the long run with a country like Argentina where all conditions are ideally suited to the production of a high quality product at a low price. In other words, I do not believe that we could survive as a beef-producing country. I believe we can survive as a fat-lamb-producing country and a mutton-producing country. I doubt, too, some of the statistics of the speaker in respect to relative efficiencies. I would like to know the source of them. I do not think that the fat-lamb ewe is less efficient than the beef animal as a converter of raw material to human food. I doubt, also, the data on the relative calorific value of the beef carcasses compared with the mutton and lamb carcasses. We have produced data at these meetings which show that that is not the case insofar as our own products are concerned anyway.

Mr. ROWLANDS: There is a great deal in your viewpoint about New Zealand's great advantage in producing lamb. My point is, that Argentina can never get back to her pre-war export level. New Zealand lamb is not cheap at the price we would like to think is a permanent price. It does not look cheap to the English housewife when she can buy cheap beef. New Zealand has, at times, had great difficulty in marketing its lamb to the satisfaction of the New Zealand farmer. When England can again import all the beef it would like, New Zealand may find it very difficult to market all its lamb.

Dr. McMEEKAN: Have you taken into account the fact that the British Government is concentrating very intensively on the development of Queensland and Africa as beef-producing areas and the fact that ways of overcoming some of the tropical animal diseases have been discovered. This will have a very great effect on food supplies as far as Great Britain is concerned. I am afraid that even though Argentina may no longer be able to supply as much beef as before the war—although I doubt that—is it not possible that these other two countries I have mentioned, with all other advantages in respect to cheap production are likely to produce more cheaply, even than the Argentine insofar as our past New Zealand-Argentina relations are concerned?

Mr. ROWLANDS: That is a very interesting point. It is not 18 months since I did 38,000 miles in Africa. It is certainly true that we did not know at that time that they were going to beat the tsetse fly. But have they? I do not think beef is going to be produced cheaply there. I know a good deal about the territory of Queensland and I think New Zealand may compete quite successfully with Queensland and the Northern Territory for the beef business of Britain.

A MEMBER: I do not know much about the relative merits of chilled beef and frozen beef. We had a talk by the Chairman of the Australian Meat Board and he gave us to understand that Australia hoped to base her future trade on frozen meat. The reasons he gave were firstly, lack of shipping; secondly, the cost was less; thirdly, given the right trade, frozen meat was just as good a product as chilled beef. The people who offered an objection to the frozen meat were the Smithfield butchers and not the consumers.

Mr. ROWLANDS: I would hate to take exception to anything he said, but actually he is entirely wrong. Would the public put up with frozen beef if they get a choice? The public, as Dr. Hamilton said, is right and the British housewife is rather discriminating. The British public are not being sold frozen beef because of the butchers. The butchers would like to get chilled beef back again because they know they could sell it to the public much more easily.

Try to sell frozen beef either here or in Britain whilst fresh or chilled beef was obtainable and one would soon be out of business.

The only regular outlets for frozen beef in normal times are the Army, Navy and public institutions.