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The Role of Meat and Wool Industries in the Future of New Zealand

By S. REEVES.

IT is impossible, as will be generally realised, to cover adequately in one paper of reasonable length, a complete survey of the subject at the head of this paper. It would be possible, perhaps I should say it would be necessary, to write a large brochure on each of the allied subjects if one were to deal properly with this matter. In looking to the future, it is always an advantage to have some regard to history, and for that purpose I would like to draw attention to a few relevant facts and figures. Initially, the emphasis in sheep production in New Zealand was on wool, and, moreover, on fine wool. There were two reasons for this: in the first place, there was no refrigeration until towards the end of last century. In the second place Australia was the source of our breeding stock, and Australia was predominantly a Merino country. In time, dual purpose sheep were developed in New Zealand, and in addition it was found exceedingly difficult to keep Merinos healthy under the heavier rainfall conditions in the North Island. Fifty years ago wool exports exceeded considerably in value those of meat. In fact, it was only after the 1914-18 war that meat assumed parity with wool in our exports. Now the position has swung back again. The following table, which also shows dairy exports, will be of interest:—

	Total Exports: (Millions of £s.)	Wool	Bare Meat	Dairy Products
1903:	15	4 (27%)	3 (21%)	1.5 (10%)
1920:	46	11.8 (26%)	11.6 (25%)	9.9 (21%)
1952:	238	82 (34%)	50.4 (21%)	79.8 (33%)

In 1903, 48% of our exports came from meat and wool. In 1921 51% of the value of our exports came from meat and wool, and in 1952 55% was the figure. Some explanation is needed in regard to the balance of the exports in 1903. This was supplied largely by exports of gold, which since that date have been constantly declining, the position of gold as an export having been taken up by the continued expansion of the dairy industry, which has increased its relative position three times in the last fifty years.

In discussing this matter, one over-riding consideration must be borne in mind, and that is whatever trend overseas markets may take in the future, there are twenty million acres of hilly land in New Zealand which are bound to continue to be used in the foreseeable future for the raising of sheep and cattle. With the advent of aerial top-dressing, production from this country becomes much easier, and so long as it continues to be profitable to apply fertilisers by air, we can look forward to increasing production from these lands. Some people suggest that if the Japanese were to populate the Dominion a much greater area would be cultivated. I do not think that this is possible, because with the steepness of our country, and its high rainfall, any persistent attempt to keep this land in cultivation would end in disaster. The greater proportion of it will have to be kept in grass or else it would go down to the sea. Again, so much of our country is unstable and is of a steepness that precludes any attempt to terrace, as is done in some countries, that even this method of land utilisation would be physically impossible even were it economically so. This fact should be kept in mind, as also the fact that, apart altogether from the desirability of keeping this land occupied in order to maintain and increase our production, were it not being farmed, the cost of policing it to keep down goats, deer, and other pests,

would be enormous. Most of it again is too steep and difficult of access to make afforestation commercially possible.

I may say that for the purposes of this discussion, I have completely ignored any question of war. No one can predict the course which a future war might take, and while it is somewhat risky even to attempt to predict the future under conditions of peace, to do so in the case of war would be virtually impossible.

The factors governing the future of the meat and wool industry in this country are, in my opinion, the following:—

- (1) World economic and financial conditions;
- (2) Population trends;
- (3) Changes in demand which in the case of wool is linked with the question of competitive substitutes;
- (4) Trade and production policies and availability of supplies in consuming countries;
- (5) Internal policy in New Zealand.

(1) WORLD ECONOMIC AND FINANCIAL CONDITIONS:

The importance of world economic and financial conditions to exporters is too well known and appreciated to require very much comment. There will always be millions of people in the world needing food and clothing. The problem is how they are to pay for these things. It is axiomatic that if world conditions as a whole deteriorate, then international trade is bound to suffer. The influence of the United States is to-day so vast and far-reaching, that any recession in that country would immediately have repercussions on all the exporting countries of the world. There is a general belief that unless there is war, any world recession on a major scale is unlikely. Here again, of course, the influence of financial policy becomes apparent. Up to date, most of the countries of the world have been indulging in what are euphemistically termed "policies of mild inflation." How it is possible to continue with mild inflation I do not know. I do not think that any one else knows either. What has happened has been that Governments have indulged in the practice of printing money, and have endeavoured to conceal the effect of this watering of the currency by the imposition of all sorts of controls—exchange control, import control, credit control etc. To demonstrate and to appreciate how these things work, it is only necessary to put oneself in the position of an exporter of manufactured goods from the United Kingdom to New Zealand. Our policy of exchange and import control has set a limit to the value of the imports which we can get from the United Kingdom and consequently to the expansion of the business of exporters in the U.K. It seems to me that if countries are determined to go ahead with this policy of printing, that sooner or later there must be a time when either controls must be stiffened, or else steps must be taken to get some value back into the various currencies. This should, of course, mean a limitation of opportunity for our exporting industries. On the other hand, throughout the world there has been a constant endeavour, through policies of full employment, to keep up the purchasing power of the mass of the people. In the ultimate the two policies are contradictory, but as yet no solution has been found to the problem of keeping full employment without a steady depreciation of the currency. This, of course, has resulted in a rising level of world prices, which has been reflected in the higher prices that we receive for our exports. Personally, I do not believe that the process can be continued for ever, and it seems to me that sooner or later there must be a readjustment, I think you must reach a stage where you just cannot keep on depreciating your money further. If this process of readjustment takes place simultaneously in the

various countries, there would not be any great danger to our export trade. Some of us, however, will remember that unfortunately in the 1930's this readjustment did not take place simultaneously, nor was it effected with any rapidity. The farmers of New Zealand found this out in having to pay high prices for their requirements when they were receiving low returns for their produce. Numerous people tell us that we know too much to let this happen again. I wonder. That is one danger, and a major one, that faces our industry. On the other hand, however, our meat and our wool industries are capable of providing a good proportion of the Dominion's basic needs of food and clothing if a recession does come.

(2) POPULATION TRENDS:

Undoubtedly changes in the population of various countries could have a very marked influence on the role that the meat and wool industries will play in New Zealand's future. To start at home: At the present time round about 98% of our total exports are farm products, and most of them are from the livestock industry. In the Report of the Director-General of Agriculture for the year ended 31st March, 1953 (which I commend to everyone interested in this subject), it is pointed out that if our population were to reach three million in the next 25 years, it would be essential for us to increase primary production, not only for the purpose of feeding the increase, but also for the purpose of providing the funds for maintaining our present level of imports. I do not propose to reproduce large portions of the Report. It is sufficient for me to say that in my opinion the Director-General had made an excellent case for the necessity for increasing production if our standard of living is to be maintained. In actual point of fact, I am doubtful whether his arguments can be at all refuted. Mr. Fawcett points out that the standard of living of New Zealanders depends on the maintenance of a balance between population and the development of industry. What appears to be required if our population does increase to the figure mentioned, is an increase of nearly 2½% per year. This means in ewes alone, an average annual increase of over half a million, which would be no mean effort. In addition to this, however, it should be realised that such a population increase would require the diversion from land at present producing for export to the use for production of liquid milk, vegetables, cereals etc. This again indicates the dependence of the Dominion on its hill land for expansion of the meat and the wool industry. On the other hand, estimates of future population trends in the U.K. suggest that within the next twenty or thirty years, the population there will be either stabilised or declining. This would appear to indicate that for the sale of our expanded production in the long term, New Zealand should be looking for wider markets.

On the other hand, the population of the United States is increasing rapidly, in recent years having hit the phenomenal figure of two millions per annum. The enormous problem of providing liquid milk alone, to say nothing of other animal products, for such an enormous annual increase is a tremendous one. It would appear that if this increase keeps up, sooner or later the U.S.A. is going to face a terrific problem in providing the required amounts of animal products to supply her people. Imagine what would happen if New Zealand's population were to double itself annually. In four or five years we would have exceedingly little dairy produce to export! This would appear to indicate that sooner or later America will have to look further afield for supplies of animal products. It seems strange to predict this at a time when the U.S. has tremendous farm surpluses, but I believe it to be true so far as animal products are concerned.

Again, to take the case of Australia, there is no question that the Commonwealth will eventually have a very much larger population.

Australia is one of the most richly endowed countries in the world. She has great possibilities in metal production, and if the oil discoveries are extended, it would appear that our sister Dominion is destined to be a great manufacturing country. Intensive increase of manufacturing is generally accompanied by large population increase. In the seventy years from 1801 to 1871 the population of the U.K. doubled itself! It is possible that Australia may face a considerable increase of population as industrial opportunities develop in the Commonwealth. If that does occur, there will undoubtedly be a much greater demand for animal products from New Zealand, but it is likely that these will take the form of those supplied by the dairy industry, rather than from the meat and wool industries. It is also probable that horticultural production will receive an impetus in this country, and this again would be likely, in the ultimate, to be at the expense of the meat and wool section of our farming (fat lamb country).

(3) CHANGES IN DEMAND (WHICH, IN THE CASE OF WOOL, IS LINKED WITH THE QUESTION OF COMPETITIVE SUBSTITUTES.):

This section is probably the most difficult of the factors with which I have to deal. All of us know how demand for products can change. We have noted the desire of Britain for more beef from New Zealand. It will be remembered that the shortage of meat during the 1914-18 war made huge sections of the people of Europe virtually vegetarians, and at the conclusion of the war they did not return to anything like their former habits of meat eating. Again, it is possible, and here I realise I am on dangerous ground, for the dairy industry to find some difficulty in its competition with margarine. This again could swing areas of land now used for dairying in New Zealand over to meat production. But the big question which arises out of a consideration of this matter is that of the competition of man-made fibres with our wool. We all would like to know what will be the eventual effect on the woollen industry of the impact of these synthetic materials. I would state that broadly speaking, it would appear that if world economic and financial conditions do not deteriorate there is room in the world for all the fibres that can be produced. Man's wants are infinite and varied, so the economists have always told us. So long as world production remains high and there are plenty of goods available for exchange, it seems to me that there will be plenty of room both for wool, the other natural fibres, and for the man-made ones. On the other hand, however, if mankind desires to go further and further the way of leisure, as against the way of production, then it is possible that competition between these two groups of materials may become intense. Throughout the world there has been a move towards greater leisure, and less work, which means less production. If this move continues, eventually it is bound to have a deflationary effect. After all, if we are going to sell our products, then the people to whom we sell them must have a surplus of production above their own needs to exchange with us for our exports. That is one of the reasons why I have never been enthusiastic about the possibilities of trade with eastern countries. The plain fact is that the people of those countries simply do not produce a sufficient surplus of goods above their own immediate needs to exchange with us for our products. That, however, was in passing. What I set out to say was that up till the present time, the onslaught of synthetics, while they are competing with wool in some of its various uses, in the individual sense, have not so far affected the over-all demand for wool. We would be unwise, however, not to be fully seized of the possibility of a threat from these new man-made fibres. While, in a large number of cases, they have not the feel or the handle of wool, it must also be remembered that their conditions of production and

sale render it possible for them to be made available at much more stable prices than wool. To anyone who is particularly interested in this question, I would recommend the scrutiny of an article in the October 1953 Quarterly Review of Agricultural Economics published by the Bureau of Agricultural Economics in Canberra. This deals very thoroughly with the whole subject. My personal view is that provided the wool producers and manufacturers are able to and do adopt a prudent and business-like policy, wool is likely to hold its own. What we must realise, however, is an absolute necessity for keeping costs in New Zealand at reasonable levels, so that our product may be able to compete with these new artificial ones. This need, of course, applies to all our exports, but I do not think it is generally realised how essential it is for us to be careful not to price ourselves out of the market. On the other hand, of course, if we do watch this aspect, there is the possibility that the blending of the artificial fibres may actually increase the field of sale and use of the natural product. Suffice it to say, however, that the situation is not one that we can afford to view with equanimity. Synthetics are novel products, which are being made by new and up-to-date plants using up-to-date methods, not only in the technical, but in the broader industrial fields. For example, I am given to understand that most of the synthetic plants in the U.S.A. work three shifts a day round the clock. On the other hand, however, in the older established woolen industries, these newer industrial practices are hard to introduce. It will be obvious, however, that the woollen industry with a similar costly processing plant, cannot afford to work its machinery for one-third of the time that is worked in producing synthetics. We also must do our part in keeping down costs and in improving the quality of our product as far as possible.

(4) TRADE AND PRODUCTION POLICIES AND AVAILABILITY OF SUPPLIES IN CONSUMING COUNTRIES:

One of the factors which has the greatest impact on our future, is the attitude of importing countries to local production. In the United Kingdom farm production was stated in March last by the Hon. Sir Thomas Dugdale, to have increased since 1939 by nearly 50%. Home-grown food, however, he stated "could feed only 30 million out of a total population of 50 millions. The remaining 20 million had to be fed by buying food overseas which was paid for with British-made manufactures. In the last few years it had become increasingly difficult to sell enough of these goods to pay for the necessary imports. As a result, the Government was asking farmers to grow still more food."

This statement published in the Ministry of Food Bulletin of March 14th, 1953, demonstrates the impact of the policies of two Governments on our industry. In the first place, we see the effect on Great Britain of a policy of countries such as New Zealand expanding the production of manufactured goods. On the other hand, it should be clear to us what is implied in the policy of the United Kingdom Government to encourage the expansion of production. That the U.K. Government intends to keep on with this policy of increasing primary production is indicated in the address by the Rt. Hon. Winston Churchill to the 1953 Dinner of the National Farmers' Union of Great Britain. He said: "Britain's production of food must with great urgency be increased to 60% above the pre-war figure." The balance between population and supplies of food had moved away to an uneconomic and dangerous extreme. Almost everywhere population outpaced the food supply. The difficulty of placing exports was increasing, and the balance of food production in Britain had to be altered in a marked and decisive manner, and altered soon. To-day it was just as important to wring the last ounce of food from the land as it was during the war." In January last year, Major Lloyd George Minister of Food in the U.K. stated that in a free market in the U.K. the amount of meat

required would be nearly 2,300,000 tons a year—200,000 tons above the pre-war figure. This was because population had increased by more than 10 per cent. since 1939. One reassuring feature from our point of view is that meat production in the U.K. is still slightly below its pre-war level. On the other hand, however, meat production over the world as a whole in the main meat producing countries is above its 1938 level. Against this, however, population has also increased, and there is the further point that more meat is being consumed in the countries of production so that world exports of meat are still appreciably below their 1938 level. It should be borne in mind that changes in demand could alter the whole picture.

The following tables will be of interest:—

OUTPUT OF MEAT IN THE MAIN PRODUCING COUNTRIES:
(thousand tons).

	1938	1948	1949	1950	1951	1952
Beef and Veal (16 countries)	10,408.9	11,530.2	12,175.0	12,620.3	12,115.0	12,725.0*
of which Commonwealth	1,813.0	2,065.7	2,091.6	2,249.3	2,136.1	2,272.6
Mutton & Lamb (10 countries)	1,625.0	1,553.5	1,536.4	1,447.4	1,345.1	1,760.3*
of which Commonwealth	851.9	849.9	915.6	840.3	798.1	998.1
Pig Meat (16 countries)	7,439.0	6,824.0	7,977.4	8,803.0	9,369.1	9,860.4*
of which Commonwealth	852.4	751.9	859.9	945.0	983.5	1,189.4
Total	19,472.9	19,907.7	21,688.8	22,870.7	22,829.2	24,345.7*
of which Commonwealth	3,517.3	3,667.5	3,867.1	4,034.6	3,917.7	4,460.1

* Estimated

(Ministry Food Bulletin, October 24th, 1953).

WORLD EXPORTS OF MEAT: (thousand tons)

	1938	1948	1949	1950	1951	1952
Beef & Veal (13 countries)	748.5	576.5	624.2	466.9	412.8	375.8
Mutton & Lamb (8 countries)	346.3	372.4	404.1	376.0	260.3	395.9
Bacon & Hams (12 countries)	394.0	145.8	170.7	263.2	253.2	284.3
Pork (12 countries)	94.2	58.1	87.9	118.4	123.3	72.6
Total pig meat	488.2	203.9	258.6	381.5	376.5	356.9
Total carcass meat	1,583.0	1,152.8	1,286.9	1,224.4	1,049.6	1,128.6
Canned meat (16 countries)	160.2	248.8	217.1	257.5	334.2	326.3

(Ministry Food Bulletin, October 24th, 1953).

As I pointed out before, the above table demonstrates that over-all world production of meat is up. Although beef and veal exports are only approximately half their 1938 level, mutton and lamb which is largely due to New Zealand, is up considerably on 1938. Bacon and ham exports, however, are still 100,000 tons down, and pork exports are still below their pre-war level. The canned meat figure is interesting, being the reverse of the beef one, i.e., double the pre-war figure.

The following table may also help to demonstrate the position in regard to meat in the U.K. (Ministry Food Bulletin, Jan. 3rd, 1953).

U.K. SUPPLIES OF CARCASE MEAT AND OFFAL:

Source	Pre-war (annual average)			1951:			1952 (Provisional)		
	1000 tons	Per cent of arrivals	Per cent of total supplies	1000 tons	Per cent of arrivals	Per cent of total supplies	1000 tons	Per cent of arrivals	Per cent of total supplies
Argentine	436	42	21	87	17	6	110	20	7
Australia	195	19	9	67	13	5	34	6	2
Canada	7	1	—	—	—	—	24	4	2
New Zealand	257	25	12	275	53	19	324	60	21
U.S.A.	11	1	1	—	—	—	—	—	—
Other countries which supplied less than 5% of total supplies	134	12	6	86	17	5	54	10	3
Total Imports	1040	100	49	515	100	35	546	100	35
Home production (home fed including self suppliers)	1063	—	51	941	—	65	1009	—	65
TOTAL SUPPLIES	2103	—	100	1456	—	100	1555	—	100

**CIVILIAN CONSUMPTION OF MEAT IN THE U.K. IN LB. PER
HEAD PER ANNUM**

	Pre War Avg. 1934-8	1946	1947	1948	1949	1950	1951	(provi- sional) (b) 1952
Carcase meat and offal	98.8	76.5	72.6	68.5	68.5	82.2	59.5	67.1
Canned corned meat	2.1	6.4	6.7	3.9	2.2	2.9	1.5	—
TOTAL (pro- duce weight)	100.9	82.9	79.3	72.4	70.7	85.1	61.0	67.1

(b) Excludes miscellaneous edible offal (imported)

The figures in regard to mutton and lamb above should give us cause for reflection. We may be approaching the stage where we should be thinking seriously about the proportion of mutton and lamb that the U.K. market can stand. Here in New Zealand with a population of about two million we eat half a million carcasses of lamb. We send to the U.K. (population around 50 millions) 12 million carcasses or about the same proportion as we consume ourselves. But in addition the U.K. has other imports, and her home production. We are expecting her to consume a greater proportion of lamb than we consume ourselves.

It will also be seen from the above tables that Argentine proportion of the market (imports) is almost exactly half her pre-war share, while on the other hand New Zealand has nearly two and a half times her annual pre-war average share. The opening for beef and the high level of mutton and lamb supplies are also demonstrated. It will be seen also that the total consumption of meat per head is down very considerably. While these figures would appear to indicate that for some time ahead there is likely to be no great over-supply of meat on the U.K. market, it must be remembered that the whole position can change very rapidly. Tighter money always means freer supplies, and if there is a tightening of money in various countries because of different causes, we could easily find the whole picture changed radically and rapidly.

The trading policy of the various countries in the world can affect us very greatly as we have found in our efforts to sell meat on the American market. I am convinced that the only way in which we can sell meat in North America is through having a complete understanding with the American farmer through his organisations, and it seems to me that we can hope to enter that market only if we can arrange our marketing in such a way as not to prejudice the product of the American farmer. Furthermore, we must be in a position to convince him of our good intentions in this respect. So far as Britain is concerned, we have been told that no bar will be placed against the entry of our meat for 15 years. What we have not been told is that the United Kingdom meat importers will be provided with the sterling exchange to purchase the meat. I can understand the difficulty of the United Kingdom in giving any such undertaking, and I mention this merely to demonstrate that in the ultimate economic conditions will always over-rule any Government agreements, no matter how good the intentions of the parties to them.

(5) INTERNAL POLICY IN NEW ZEALAND:

The meat and wool industry can play a very useful part in assisting this Dominion to obtain the foreign exchange necessary to purchase our requirements, particularly for our manufacturing industries, only if internal conditions in New Zealand are such as to encourage the industry. While we have a policy of full employment, however, it is not going to be easy to persuade people to forego the easy life

of the town and to undertake the more arduous jobs in the country such as scrub-cutting. This is only natural, and it would be utopian to believe that it could be otherwise. The Director-General has also pointed out in his report to which I referred earlier, that if we are to expand production, considerable capital will be required both in pastoral farming and in the expansion of servicing industries and facilities. We shall require considerable investment not only on the farms but in the provision of fertiliser works, meat works, or extensions to the existing works, and in all the facilities required to handle our produce. Capital can be made available in both cases only if there is adequate saving from current production. Capital for the farm will be required to be provided in most cases by the farmers themselves. Over all, what is required is a level of Government spending which will leave enough money available for saving in private hands for investment in the undertakings I have referred to. This will necessitate a decrease in State expenditure. If this does not occur, then it will not be possible to provide the capital required except from overseas, and in view of Britain's financial position it would appear that we should have to depend on loans from dollar sources. I do not think this is practicable, and it seems to me that the only way in which the meat and wool industries can play their part is by their being placed in a position where the industries themselves can retain enough out of current production to build up the capital required. In any case this is the only sound basis on which any business or industry can expand.

There is a new industry taking its place in New Zealand for which great things are predicted—the utilisation of our exotic timber. Provided its economic problems—particularly those of transport—can be solved, the physical ones should present little trouble, and we should have a great new industry. Whether in time it will develop as did the dairy industry, is hard to say. Again, provided its economic problems can be solved, there is no reason why it should not range alongside the meat and wool industries in importance to the future of New Zealand. That industry would appear to be the only one which in the future may rival the meat and wool industries as New Zealand's major earner of overseas funds, but that time would appear to be a long time ahead.

CONCLUSION:

To sum up the foregoing very briefly:—

- (1) Topography and rainfall render it necessary for the major proportion of the occupied area of New Zealand to be employed in the production of meat and wool.
- (2) Provided world economic trends are not unfavourable, the industry as a whole should continue to prosper.
- (3) Population changes both in New Zealand and abroad, could have a considerable influence on the role that both the meat and wool industries are to play in New Zealand's future.
- (4) It is probable that in the future demand abroad will tend in the direction of encouraging greater beef production in New Zealand.
- (5) Provided wise and prudent policies are pursued, and costs are kept down, the use of synthetics should not reduce the overall use of wool in the foreseeable future.
- (6) The position in overseas countries should be watched and endeavours should be made so that our production and marketing policies are complementary to, and not opposed to, those of countries where we have existing or prospective markets.
- (7) Provided favourable internal policies are followed in New Zealand, particularly in regard to the formation and use of capital in the industry, it should expand and continue to be the major exporting industry of the Dominion for many years to come.

Discussion

Dr. H. B. LOW, Massey Agricultural College, Palmerston North.

You have put upon me at very short notice a task which Professor Riddet was to have performed and the time at my disposal allows me to make only a few of the possible comments upon the three papers given this morning.

One point I would like to deal with critically in Dr. Hamilton's paper; that is in regard to this matter of raising the lower producing farmers to the level of productive efficiency already reached by the top 10 per cent. Professor E. Thomas in the Report of the (U.K.) Agricultural Economics Society Conference of December, 1952, says (p.238): "There is no more futile statement than that which we hear so often that if only the rank and file of farmers did what the best farmers are doing there would be no problem." I feel that we too easily overlook the real differences in managerial efficiency of the men concerned. I remember Dr. J. H. Kolb of America, when he was here just before the war saying with amusement something like this: "The folk in Wellington were quite amazed to find that New Zealand farms carried people as well as sheep and cows." I'm sure that far too little work has been done to discover whether and to what extent farmers react in the way we think they should. An understanding of these matters is just as important for obtaining increased production as having improved technical methods to offer them.

Turning now to points in Mr. Perry's paper: I think some care is needed in the interpretation of the figures for consumption given for butter and margarine. The consumption figures for the U.K. are for rationed quantities and it is known that the butter ration has always been fully taken up whereas that for margarine has not. In the U.S.A. butter consumption has fallen for two reasons which might not count in the longer run. First, the quality of a good deal of American butter, regarded as one of the less important sources of farm income and aided by little organized marketing, leaves a good deal to be desired. Secondly, the retention of the support price policy which arose from the difficulties of the 1930's depression keeps the price so high that consumption is restricted and surpluses pile up. We might hope that the absurdity and artificiality of the position will force a reconsideration of the price policy.

[Since the meeting the U.S. support price of dairy products has been lowered to 75 per cent of parity.]

Margarine has certainly improved in quality and since pre-war production in 15 countries of Europe and North America has roughly doubled from 1 million tons a year to 2 million tons while world butter production has fallen somewhat from 3.2 to 2.8 million tons. But butter production has been restricted because other uses of milk have expanded as being more profitable. Home consumption of butter has so risen in exporting countries that world exports were down in 1951 to 71 per cent of pre-war and the lower total supplies of exported butter will tend to maintain the exchange value of our butter. Moreover margarine manufacturers are finding that their raw materials tend to become more expensive. In summary, prospects for butter do not appear to be hopeless as some seem to think. I know the risks of prophecy and we will have to watch closely the situation which develops as the U.K. derations it later this year but the probable price level may not be much out of line with our present guaranteed price equivalent.

Diversification in cheese production may not be as attractive as Mr. Perry indicates. The chances of competing in special types of small cheeses on the English market do not appear to offer a big

outlet to our production and their handling would be expensive at our New Zealand level of wages. Big Swiss type cheeses might be a different matter. On the other hand the elimination of the uneconomic fringe of U.K. cheese production might well give us room for the expansion of our standard Cheddar type. The price structure in the U.K. has recently led to a liquid milk surplus even in the winter and in out-of-the-way localities like the Western Islands of Scotland. Turning it into cheese may well be the best way of using the milk surplus when it is there but it seems a thoroughly uneconomic price structure which can lead to it being there at all at that season and place.

Professor Riddet, if he were here this morning, would urge that the milk powders whose present prospects do not seem so good may yet justify steady expansion. Present prices are low because American producers can afford to sell their surplus for what it will fetch and recoup themselves from the bulk sold on the domestic market. That is the result of the war-time expansion which the Americans were ready to get into when we were not. There is need to encourage actively the use of milk powders and undoubtedly several important potential outlets exist. One lies in the use of milk powder in bread-making in the U.K. in the way that has become standard practice in the U.S.A. Another lies in such countries as India where even low average purchasing power does not bar its use since already a good deal is spent by Indians on milk that is more expensive and less hygienic than reconstituted milk would be. Prof. Riddet in his recent trip through India as the guest of the Indian Government was impressed with the scope for using N.Z. milk powders and water to be mixed with high-fat-content buffalo milk to produce something like our ordinary liquid milk. Since distribution and hygiene of liquid milk pose special problems there is also probably a good deal of scope for educational work that would lead to added use of milk powder in Indian dishes.

For reasons such as these I would not entirely share Mr. Reeves' views that Asiatic markets are of negligible importance to us although I do not imply anything in the way of rapid and spectacular expansion.

In meat the immediate prospects for beef exports are better than for mutton and lamb exports. The beef exporting countries are the ones whose prosperity and growing populations have caused the export surpluses to dwindle. In the first 10 months of last year U.K. meat imports of all classes were still 17 per cent below the 1938 level although the population had risen in the meantime by 10 per cent. I am not as concerned as Mr. Reeves that we expect Britain to consume as large a proportion of lamb in relation to her population as we do ourselves. Because of transport and other marketing costs the British market price of lamb should be lower as a percentage of the price of mutton that it is with us. But I agree that we must watch for signs of saturation.

Professor Riddet would suggest that, as carrying capacity rises with pasture improvement on our dairy farms, we should give consideration to raising beef on them. Since many of them would find it awkward to justify one additional labour unit if the expansion takes place in milking cows the extra feed might be profitably utilized by running dairy breed steers with very small demands on labour. Is it possible to devise some method of treatment or feeding of the animal in the final stages which would remove or at least greatly reduce, the intense yellow colour of the fat to which the beef trade takes exception? Alternatively or concurrently with this investigation, would it be possible to discover whether some animals transmit the yellow colour to a greater degree than others, and therefore could we breed from predominantly dairy types surplus steer calves which could be converted into high-class saleable meat?

Population has been mentioned, 3 millions by 1975, 4 millions by 1991. Is it inevitable that we should let it set our problem and then have to set to work to make farm production rise in proportion both to feed ourselves and to maintain the ratio of imports to population? I remember the look of resignation on the face of my Chinese teacher when he told me of the arrival of his eighth child. Perhaps we should consider always what population a country like N.Z. with its restricted resources can support. Certainly our most profitable use of our resources still lies in the expansion of our farming industries.

I cannot share Mr. Perry's and Mr. Reeves' attitude on placating the American farmer. It is abundantly clear to all economists that both the U.S.A. and New Zealand would be better off if we were allowed freer entry into the American market for our farm products and thus enabled to buy more of their manufactures. I would agree that our "know how" should be freely at their disposal and that we should be diplomatic. But a good deal of their production is un-economic in the fundamental sense that a re-allocation of their resources would yield them more meat by buying it in exchange for their efficiently produced exports than by producing it all themselves. That would not cause their home meat production to disappear entirely. It would undoubtedly cause it to contract and, of course, that readjustment is awkward for individuals. The American people are not likely to insist on all the implications of economic commonsense and of course, they are free to choose a situation that makes them poorer than they could be. But we are also made the poorer in the process and prevented from buying dollar goods for which we would willingly and profitably give farm products in exchange.

It is one thing to understand and be patient with their political problems of the "farm vote." But that should not prevent us from being insistent that they face us with a situation detrimental to our well-being as well as their own and that their exclusion of our products is inconsistent with their own demand for freer world trade.

Farm labour and its shortage and high cost has been mentioned. Labour has been attracted away from farms in a manner that is in part quite natural and healthy in an economy with a state of full employment. But in part the attraction off the farms has been excessive. The cause lies in the very large amount of capital formation which we have attempted in excess of our ability and willingness to finance out of current income at steady prices. The result has been inflation and inflation has meant high incomes with a strong desire to buy imports. That demand for imports of consumer goods and the high proportion of capital goods which must be imported has led to import control. Some goods have been excluded and profitable businesses (to the owners) have been set up to make locally what we would prefer to buy abroad. These new businesses have claimed their share of capital goods and imported raw materials and aggravated the position. As a result both the capital works and the new protected industries have been given great financial power to draw labour away both from farming and from some of the older established secondary industries. It is very desirable that we should recognise more clearly the strain which has been put upon our basic industry by the attempt to "progress" so fast. If farm exports are discouraged by such policies our export earnings will fall just at a time when we want to be able to buy more imports.

Farm labour can be retained, however, if we recognise that full employment requires that farm wages must now be fully competitive with town wages. I suggest that some of our farmers who have been losing labour have not fully made the mental adaptation to the necessity of high wages which prosperity, full employment and a low value of the pound requires. I suspect that it is the older farmers who find the adaptation most difficult.

In summary we can say that New Zealand needs expanded farm production for her prosperity; that high prices for farm products

by themselves do not call it forth immediately; that much of the expansive effect of good prices in the longer run seem to work by making farmers able to afford the technical means to change their methods and it is the function of your Society to be supplying the flow of new methods for their adoption; that we can count on avoidance of major depression in the sense that the Western World, in its cold war with Communism, knows both that it must not and that it need not regard a depression as inevitable; and hence that efficient farm production will continue to be profitable to us at prices little lower than we are receiving at present. It is productive efficiency which can reconcile moderate prices for the product with high earnings per man.

General Discussion

Mr. SMALLFIELD: A population increase of 1,000,000 in 25 years will require 1,000,000 more dairy cows and these cannot be placed on existing farms. New farms will be required and the State will be asked to produce them. There must be a repatterning of land.

Dr. HAMILTON: I believe that a million cows is an over-estimate. In the past 50 years, the number of cows has doubled and the output per cow has also doubled.

Mr. REEVES: Farmers are not as good as they should be but that is true of all walks of life.

MEMBER: There is a need for more social studies on the New Zealand farmer and his reaction to extension work.

Mr. LONG: Farmers pay a lot of income tax and many of the older ones do not seem to realise that if they paid higher wages, half of that would come from the State.

Professor KUPPUSWAMY: Half of India's population is vegetarian and there is a great market there for milk and milk products.

Mr. PERRY: In New Zealand we have high manufacturing costs and the price we could obtain from India would not cover the cost.

Dr. McMEEKAN: The main problems appear to be political, economic, social or psychological. There has been no mention of the technical side.

Mr. GRIFFITHS: Food habits have changed over the war years. Pre-war twice as much butter as margarine was used, whereas now it is three times as much margarine as butter. The quality of the margarine has improved and nutritionally it is as good as butter. Dried milk is not liked but the outlook for cheese is better. Increased production is more likely to come from the top farmers than from raising the average.

Dr. HAMILTON: In bringing up the average farmer to the level of the top ones, it was envisaged that the top farmers should rise also.

Mr. BRUMBY: Population should be limited in addition to improving techniques to raise production.