New Zealand's Contribution to the British Diet

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Present position

To state the position of New Zealand food exports in concentrated form, I present Table 1, which I believe to be reasonably accurate, showing quantities of food commodities received in Great Britain from New Zealand before the war, and for each year following 1938. Annual fluctuations will be noticed. Tables 2 and 3 give interesting data relating to production in New Zealand and to the effect of that production on the British market.

Dairy products. The immediate prewar average for butter was higher than normal because of a very good season for 1937, and it is not until 1948 and 1949 that we can show similar export figures. The change from butter to cheese production in 1941 was due to Britain's decision to import only sufficient butter for a 2 oz. ration, but owing to a shortage of animal proteins to ask for maximum cheese supplies. In 1942 ample supplies of cheese became available from the U.S.A. on lease-lend, and the much shorter haul meant a substantial saving in tonnage; New Zealand was asked, therefore, to change her factories back to butter, and because Australian butter imports were falling rapidly at that time and demands for troops in the Pacific became substantial, the total available for shipment to Britain was only sufficient to maintain the 2 oz. ration which, in fact, ran from 30 June 1941 to 11 November 1945, when it was raised to 3 oz. The diversion of supplies of dairy products to overseas forces is plainly seen in the 1944–6 figures for preserved milk. In 1947, because of the needs of the mother country, butterfat production increased, and with excellent and lengthy dairying seasons heavy tonnage has resulted.

Increase in dairy products available for export has been secured for several reasons:

(1) With the return of farmers' sons from overseas more labour became available. Perhaps labour is the most critical factor in defining the quantity of dairy produce that can be produced and exported. Not only is farm labour chronically short, but so also is dairy factory labour—this in spite of good wages and a short working week of 44 hr., with overtime rates paid in the heavy part of the season. As in other countries, factory wages and conditions tempt young men and women from the land, and a Public Works Department which always has projects in hand is an added attraction. New Zealand is not a heavy industrial country, but several small industries have been set up and these act detrimentally to farming. At present, a farm labourer's gross wages are £6. 6*s.* 6*d.* for a 44 hr. week, which includes necessary week-end labour, and in the stabilization of prices brought about by guaranteed prices, labour costs are taken into consideration. For example, a farmer milking with one assistant forty-eight cows with a low average return of 215 lb. butterfat per cow receives a labour reward for himself of £610 per annum and for farm working and maintenance, including assistant's wages, £431 per annum and a total income from the farm of £1114.

Table 1. *Yearly gross imports from New Zealand into the United Kingdom*

(The table is compiled from data of the Board of Trade (1949) and of Customs and Excise (1949))
(tons × 10^3)

	1936–8 (Average)	1939	1940	1941	1942	1943	1944	1945	1946	1947	1948	1949 (1st 10 months)
Dairy produce:												
Butter	138·9	104·7	114·74	127·98	93·38	100·39	104·4	118·3	101·2	120·28	135·88	115·209
Cheese	84·18	74·87	89·35	116·40	132·5	91·71	82·3	83·84	82·13	82·72	83·06	84·50
Preserved milk (powdered and condensed)	8·45	6·48	6·82	9·03	7·25	8·3	4·5	3·0	3·52	10·49	12·08	—
Lactose	N.A.	N.A.	0·135	0·299	0·118	0·200	0·200	0·350	0·0375	0·516	0·220	—
Meat:												
Beef and veal	43·06	49·92	61·54	39·57	32·46	15·21	6·063	23·54	64·77	60·33	64·89	46·226
Mutton	46·08	40·8	87·1	35·4	34·8	21·3	49·9	76·7	75·5	75·24	69·5	56·94
Lamb	134·04	136·8	145·5	144·3	179·0	146·2	127·2	169·2	169·8	177·18	191·5	167·4
Pig-meat	29·15	22·0	28·19	26·10	15·2	0·725	2·01	4·19	12·7	8·3	9·6	11·0
Canned meat and edible offal	12·96	16·46	4·674	6·017	20·21	18·53	7·46	7·64	20·76	13·42	13·39	12·04
Edible fat	1·04	0·89	1·29	0·63	1·48	0·68	0·69	1·20	0·78	6·18	7·47	6·6
Miscellaneous:												
Honey•	425·5	161·7	417·8	383·5	0·5	Nil	121·5	28·5	71·6	N.A.	N.A.	N.A.
Peas	—	—	7·4	8·9	2·62	1·29	Nil	1·60	10·37	5·31	5·15	—
Apples†	993,552	723,744	588,168	Nil	Nil	Nil	Nil	Nil	281,738	Nil	1,001,081	426,048

N.A. Not available. • Tons. † Bushels (40 lb.).

(2) Under New Zealand farming conditions, the pasture is grown as a permanent crop, and this requires feeding with superphosphate and lime to keep up high fertility of the soil. The whole of New Zealand's livestock farming depends almost solely on pasture, and all protein, fat and carbohydrates sent to Britain are evolved from pasture.

During the war, Nauru Island installations were destroyed, with the result that phosphate rationing had to be carried out. More phosphate is now available, and is reflected in increased dairy produce.

(3) Herd testing has increased and there has been a definite increase in the national herd average for butterfat to 245 lb./cow at pail. Some 400,000 cows are now under test and the latest figures of this group show an average of 279 lb./cow, with 305 lb./cow in the dairying district of Taranaki.

(4) Butter and cheese rationing has continued in New Zealand. Prewar butter consumption was about 42 lb. per head of population, whereas it dropped to 31 lb. during the war, and rose recently to 32·5. It should be realized that margarine is not used in New Zealand, but that there was access during the war to other animal fats to eke out the family needs.

(5) The guaranteed prices in 1949 of 252*s.* 6*d.*/cwt. butter and 141*s.* 6*d.*/cwt. cheese are considered by the farmer to be fair and equitable, and with a 7-year agreement, with the proviso that 97% of exportable surplus must go to Great Britain for 1949–50 and thereafter by arrangement, and with a further proviso that prices cannot fluctuate more than a definite amount as decided annually by both parties, the dairy farmer is likely to continue optimum production and to increase it as promised.

(6) More use is now being made of waste skim milk and whey in producing by-products, such as dried milk, lactose and casein.

Meat. It will at once be noted that there is no reference to poultry in Table 1, and that pig-meat is not a major production. This is understandable when it is realized that New Zealand does not produce nearly sufficient grain for human consumption, let alone for stock feeding. Numbers of breeding sows are slowly dropping, and it is unlikely that New Zealand will be a serious producer in the pig-meat market.

Table 1 shows, too, that as with dairy products, meat, with the exception of lamb, was diverted for army use during 1943–5. As American troops did not appreciate lamb, there was little fall in exports to Britain of this commodity. Fluctuation in supplies results from the annual seasonal quality of pasture. It will be noted that, generally speaking, export of meat has been considerably increased over the past decade.

Other commodities. Production of peas and apples fluctuates for two reasons, one the New Zealand season and the other the requirements of the British market.

Future production

New Zealand has concluded a 7-year agreement with Britain, 5 years of which have still to run. She is aiming at a minimum target of an annual increase of 2% of dairy products and an increase of 50,000 tons of meat by the end of the 7-year period. That should be satisfactory, but good or bad seasons may alter the result considerably. A drought in the store-stock areas could easily prejudice the 50,000 ton increase in

meat and cause a decrease in exports for the following 4 years. This 1949 season is, up to date, the best year known for dairy produce.

The increase of products will be brought about as follows:

(1) Fertilizer supplies are being increased, as it must be realized that superphosphate is the key to all high production in New Zealand. Further Government subsidies are suggested on lime and phosphate, with a reduction in rail charges. A new co-operative superphosphate works is to be built to serve the store-stock area of the east coast of the North Island. One of the enormous difficulties in hill country was the distribution of superphosphate. This is now being solved by aeroplane dispersal, and four aircraft of 9-ton capacity are being obtained for fertilizing hill country. Where copper and cobalt are deficient, they are added to the superphosphate, and assist in simultaneously controlling parasites and improving the health and growth of the young animal.

(2) Better strains of grass and clover are being introduced.

(3) Improvement in dairy supplies is being obtained by continuous increase in herd testing, sire surveys, artificial insemination with high-class bulls to improve herd average, and by better farming methods as shown by research work in the Agriculture Department and in agricultural colleges.

(4) In meat supplies, increase in beef production will be the main effort, but this will inevitably lead to increase in mutton and lamb as pastures improve. Fortunately, the British market has not yet reached the absorbable saturation point and can use the increase in small joints which New Zealand sends and will send. This applies also to beef, provided it is produced from the breeds with high meat:low bone ratio. Quality rather than quantity is still considered to be a necessity in our lamb trade, since at a future date it may be necessary to return to competitive practices, and the good name of New Zealand products would be essential. In fact, all meat has been held at high standard throughout the period under review. It is the aim of the governing bodies, the Meat Board and the Dairy Commission, that this quality should be maintained at all costs even with rise of production. Pork and bacon from New Zealand can never compete with those from grain-growing countries, where large quantities can be quickly produced, and this fact makes it uneconomical for the New Zealand farmer to spend more money on farm labour to grow pig-meat. There is likely to be a decline rather than an increase in this commodity. Were pig-meat a necessity from New Zealand, then the farmer could supply pork of an excellent grade fed on milk by-products, meat meal and pasture as has been done in the past.

The increase since 1938 of 89·2% in the price received for pig-meat, and 82·7% in that for meat and offal has been, and will continue to be, an incentive to produce good class meat. The buffer of $7\frac{1}{2}$% increase or decrease in prices in any one year as decided by both parties to the agreement gives the farmer a feeling of security—a very necessary factor in increased production—and there are also accumulated funds in the hands of the Government and Meat Board which will further buffer downward trends.

(5) Control of disease, particularly mastitis and contagious abortion, must be having a marked effect on the future of production. Contagious abortion has been reduced in 50% of dairy herds to a level of 3%, and penicillin treatment is keeping many cows at least one more year in production.

Table 2. *Numbers of livestock, acreage of land cultivated and uncultivated, and amount of fertilizer used in New Zealand, 1937–49*

	1937–8	1938–9	1939–40	1940–1	1941–2	1942–3	1943–4	1944–5	1945–6	1946–7	1947–8	1948–9
Livestock:												
Dairy cattle: in milk	1,743,190	1,723,893	1,719,289	1,759,018	1,756,654	1,714,959	1,647,920	1,678,943	1,661,944	1,657,690	1,713,532	1,746,753
total											2,638,289	2,681,428
Beef cattle•	N.A.	N.A.	1,929,288†	N.A.	1,925,339†	N.A.	1,913,354†	N.A.	2,066,473	2,047,990	2,077,998	2,041,408
Total cattle•	4,469,117	4,527,983	4,496,067	4,538,908	4,604,749	4,447,548	4,439,258	4,590,926	4,666,782	4,633,800	4,716,287	4,722,836
Breeding ewes	19,663,866	19,960,299	19,727,657	20,030,933	N.A.	N.A.	20,549,716	20,865,858	N.A.	20,743,782	21,055,482	21,499,703
Total sheep	32,378,774	31,987,091	31,062,875	31,751,660	N.A.	N.A.	33,200,298	33,974,612	N.A.	32,681,799	32,483,138	32,844,918
Breeding sows•	104,073	96,024	92,029	99,648	90,608	82,023	77,281	77,202	72,573	67,938	68,354	68,305
Total pigs•	748,805	675,802	706,340	761,519	681,016	604,574	573,362	593,828	549,391	545,874	548,177	544,841
Poultry‡	4,019,076 (1936)	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	4,470,336	N.A.	N.A.	N.A.	N.A.
Land:												
Pasture (acres)§	17,545,445	17,663,912	17,566,663	17,737,583	17,713,378	17,876,302	17,744,469	17,638,820	17,955,014	18,076,757	18,091,038	18,088,777
Unimproved (tussock and native grass) (acres)	14,015,112	13,850,137	13,937,733	13,861,489	13,869,330	N.A.	N.A.	N.A.	13,968,330	13,827,111	13,647,378	13,543,915
Fertilizer used (tons)	611,316	614,388	672,611	698,647	502,431	362,331	285,415	429,681	514,084	633,471	688,511	683,031†

• Exclusive of those within boroughs.
† Estimated.
‡ Includes Maori flocks.
§ Total area in grasses, clovers and lucerne.
N.A. Not available.

(6) Improvement of beef breeds and their crosses is being carried out. The whole structure of New Zealand farming is built on control of grazing by cattle, and the greater the use made of cattle for improvement of sheep country, the greater will be the quantity and quality of beef produced. Saturation point in this direction appears to be a long way off.

(7) Increase in mechanization to reduce farm costs is being pushed by the Agriculture Department.

(8) The new Government has promised that there will be greater improvement in areas of marginal land, and has said that they will give consideration to reduction of taxation of overtime of the worker.

Agricultural statistics for New Zealand

Land in New Zealand can be divided into several categories. The total is 66,390,677 acres, of which 23,290,853 are quite unusable. In 1945–6, 17,955,014 acres were sown pasture, 2,254,880 in crop, 13,968,330 in tussock and native grass, 2,708,429 native forest, 4,717,109 in fern and scrub, and 1,709,448 were barren. Flax grew on 33,864 acres of swamp, so that the total occupied area was 43,099,824 acres.

Table 2 shows the numbers as far as they can be obtained of livestock from 1937, until 1949. Actual figures for beef cattle are not available for earlier years. Figures for poultry are only obtained at intervals. The effect of the war years on supplies of superphosphate is clearly shown, as is the reduction of the pig population.

Dependence of the United Kingdom on certain imports from New Zealand

Table 3 shows how much the British consumer depends on New Zealand for certain high-grade commodities. The high cost of meat to the consumer is perhaps the biggest deterrent to the demand for ever increasing supplies. With improvement in grassing of marginal land, New Zealand can go forward steadily, but she would not like to risk oversupplying the market. The table refers to 1948, as a representative postwar year, and shows the total quantities of certain produce supplied to the United Kingdom from New Zealand, and the total imports into the United Kingdom from all sources.

Table 3. *Imports from New Zealand compared with total imports into the United Kingdom of lamb, mutton, beef, butter and cheese for* 1948

Commodity	Total imports (cwt.)	Imports from New Zealand	
		cwt.	Percentage of total
Lamb	5,883,221	3,829,786	65
Mutton	1,795,582	1,389,901	77
Beef: boneless	1,504,524	705,189	17
frozen	5,944,726	592,732	
Butter	5,452,829	2,717,701	50
Cheese	3,144,937	1,661,112	53

Conclusion

The future of production in New Zealand is bright. Food production will increase steadily, and, provided seasons remain temperate, shipping facilities and standards improve, and refrigeration store space is available in Britain, the targets aimed at in New Zealand will be possible of attainment.

Much depends, too, on the improvement of marginal land and the continuous supply of superphosphate. The New Zealand farmer is a sane and well-informed member of the community, willing to pull his weight whenever difficult situations occur. He is backed by useful agricultural colleges and a live Agriculture Department, and the sale of produce is organized by representative bodies, the Meat Board and Dairy Commission. This has led to a stable primary industry.

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South Africa's Contribution to the British Diet

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The Union of South Africa can make only a limited contribution to the food requirements of the United Kingdom and that to a large extent only of luxury or semi-luxury articles of food. To appreciate the reason for this it is well briefly to examine the geophysical background of South African farming.

Physical features of South Africa

General climatic conditions. The Union, including South West Africa, together with the three Protectorates of Basutoland, Bechuanaland and Swaziland, occupies an area of 1,100,000 square miles. This vast expanse can be divided into two main geographical areas, a coastal belt and an interior plateau, or rather series of plateaux, separated by an escarpment over 2000 miles long which begins in the west as a low ridge in South West Africa, gradually increases in stature towards the south and ends in the majestic Quathlamba Mountains or Drakensberge, in the north-north-east, in Basutoland and beyond along the border of Portuguese East Africa. In expanse the interior plateaux by far exceed the long but narrow coastal belt. Climatically the coastal belt can be subdivided into three main regions, a hot desert region in South West Africa and northern Cape Province, a 'Mediterranean' region in the so-called western Cape Province and south-western districts round Cape Town and a warm temperate region from roughly the border districts above East London, through the native territories of the Transkei and East Griqualand, Natal and Zululand to the Mozambique border.