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Primary Production and Production Capacity

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PRIMARY PRODUCTION AND COMMERCE:

It has long been recognised that primary production furnishes the foundation upon which New Zealand's economic life is based. Excluding such primary industries as mining, fishing, and timber milling, our farm industries produce over 90% of our exports and about 60% of our total production of material wealth. They provide a large part of the local market for other industries, support directly the rural population of around half a million, and indirectly many others. To acknowledge this general dependence of the Dominion on farming is not to deprecate other occupations. Manufacture, transport, commerce, building, etc., are all essential and complementary, and must have their place in our economic structure. But the basis of that structure is the land, and it is largely conditions in the industries producing direct from the land, and producing for export, which decide whether the country is prosperous or depressed, and which determine the nature and direction of our general progress and development.

CHANGES IN PRIMARY PRODUCTION:

The bald statement of the figures for production of material wealth as given in the estimates published in the official Year Book is sufficient to indicate the importance of the farm industries, and the broad changes that have occurred since 1900. In the table which follows, figures for the earliest and latest year available at the time of issue of the previous bulletin, and for the latest year now available, are given.

PRODUCTION IN NEW ZEALAND

Industries	Values £ millions		
	1900-1	1926-7	1942-3
Agricultural	4.1	8.8	12.6
Pastoral, etc.	12.2	32.7	48.7
Dairying, etc.	3.7	24.7	38.2
All farm groups	20.0	66.2	99.5
Per cent of total	58%	59%	59%
Mining	2.9	3.5	4.9
Fisheries	0.1	0.5	0.6
Forestry	2.0	4.0	5.0
Factory	5.4	23.0	45.2
Building, etc.	3.5	13.9	14.6
Non farm groups	13.9	44.9	70.3
Per cent of total	42%	41%	41%
All industries	33.9	111.1	169.8
Population in 1000,s	812	1,427	1,639
Value per head	£42	£78	£104
Value at 1938-39 prices	£50	£100	£123

The most striking feature of the table is the increase of dairying, the product of which has been multiplied ten times during the period covered. Factory production comes next, then building, etc., and pastoral, both multiplied about four times. These have all increased faster than population has increased, even after allowance has been made for changes in the value of the £1 used as a measuring rod.

Consideration of exports of primary products, which enable us to consume overseas products and repay our overseas debts, reveal changes even greater than those indicated in the preceding table. The facts are as set out in the next table. Their earlier figures are as given in the previous bulletin, the latest figures are taken from the latest monthly abstract of statistics.

EXPORTS OF PRIMARY PRODUCTS

Product	Values £ millions 1901	1927	1946
Agricultural	£1.5	0.9	2.9 (estd).
Pastoral	6.9	27.7	51.6
Dairying	1.1	16.5	29.6
Total of above	9.5	45.1	84.1
Other exports	3.2	2.5	14.3
Total all exports	12.7	47.6	98.4
Estimated quantity index	100	230	330

The total value of all exports has increased almost eight times while the quantity of exports has increased over three times in this period. The exports of dairy products have become predominant. Next to these the largest individual item was that of grass and clover seeds which reached the very high total of £2m. The exports of other industrial groups are now very small. The Dominion's export and consequent import trade is now very largely dependent on the pastoral and dairying industries.

Further comparison of land occupation and production shows the sources from which the increased output has been secured. The next table gives certain significant details of farm holdings and numbers engaged in farming, etc., the earlier figures as given in the previous bulletin, and the later figures for the latest year available.

CHANGES IN FARM HOLDINGS, ETC.

	1901	1927	1946
Number of holdings 1,000's	64	85.6	86.2
Area occupied, million acs.	34.9	43	43
Numbers engaged in farming	91,000	133,000	124,000
Area per person engaged	384	328	380
Area in crops, million acs.	1.4	1.8	1.6
Area in sow grass, million acs.	11.6	16.7	18.0
Unimproved occupied area	22.3	25.6	23.1
Number of breeding ewes	9.6	14.8	20.8 (estd.)
Number of sheep (millions)	20.3	25.6	34 (estd.)
Number of dairy cows in milk	0.3	1.3	1.7
Total cattle	1.4	3.3	4.7

There has been no appreciable increase in the number of holdings or in the occupied area over the past twenty years as compared with a quite considerable increase in farming on new and previously unoccupied land in the period 1901-1927. There has actually been a very considerable decline in the numbers recorded as engaged in farming in the period 1927-1946 as compared with a very great increase in the period 1901-1927.

Considering the males only, and taking the years 1930 and 1947, the total decline is reduced, but there is a very great variation in results throughout New Zealand ranging from a maximum increase of 18% in Auckland province to a decline of 19% in Canterbury and 29% in Otago. The figures as quoted from the October, 1947, supplement to the monthly abstract of statistics are as follows:

PERSONS ENGAGED ON FARMS (MALES ONLY)
EXCLUDING CASUAL AND CONTRACT LABOUR

Land District	1930	1947	% Change
North Auckland	16,067	16,759	+ 4.2
Auckland	21,213	24,988	+ 17.8
Gisborne	3,905	4,048	+ 3.7
Hawke's Bay	7,517	7,678	+ 2.1
Taranaki	9,332	8,769	— 6.0
Wellington	18,137	16,143	— 11.0
Marlborough	2,586	2,274	— 12.1
Nelson	3,568	3,281	— 8.0
Westland	1,013	841	— 17.0
Canterbury	17,354	14,037	— 19.1
Otago	10,538	7,483	— 29.0
Southland	8,091	6,641	— 17.9
Totals Dominion	119,321	112,921	— 5.4
Totals North Island	76,171	78,364	+ 2.9
Totals South Island	43,150	34,557	— 19.9

Obviously the increase in output that has been attained has been due to an increase in output per person engaged in farming.

The production of real wealth per agricultural worker occupied as measured by Colin Clark in comparable international units is much higher for New Zealand than it is for any other country, being estimated at approximately:

2400 I.U. for New Zealand
1500 ,, ,, Australia
600 ,, ,, Canada
120 ,, ,, India.

The very high output per man achieved by New Zealand is partly explained by the efficient work done by those few remaining on farms. It is partly explained by the grassland type of grazing farming practised and the response obtained to topdressing. For example: The total area topdressed increased from 1.9 m. acs. in 1927 to 3.7 m. acs. in 1946. The greatest response to topdressing has been obtained in the Auckland province and here the numbers engaged on farms (males only) have considerably increased.

A further explanation of the very high output per man is provided by the increasing use of machinery as indicated in the following table:

No. of Machines on Farms	1930	1947	% Increase
Electric motors	16,456	82,721	402.7
Internal combustion engines	19,169	23,109	20.6
Agricultural tractors	3,891	21,156	443.7
Milking plants	20,415	32,596	59.7
Shearing machines	7,394	14,564	97.0

One-man hay baling machines and harvester threshers and many other labour saving machines which were not available or very little used in 1930 are now available. This means that part of the agricultural labour has been transferred to the job of working, servicing or importing of agricultural machines. Most milking machines are now used to do the stripping as well as the milking. Much of the topdressing is now done by motor-lorry-operated broadcasters.

The replacing of horse and hand labour by machinery labour has enabled a two-fold increase in output to occur.

(a) Land no longer required to be devoted to the production of horse feed is now available for the production of human food.

(b) Labour formerly fully occupied in uneconomically situated small holdings in jobs such as hand milking or hand harvesting can now be greatly reduced by the use of modern machinery, e.g., in U.S.A. it is estimated that one-third of the more economically situated farms produce 80% of the total farm output. Even on these farms output could be greatly increased by the adoption of improved methods.

Warning is, however, necessary. Where these developments are ob-

tained only on the better land and at the expense of proper farm maintenance, of over-working farm labour (particularly the women folk), or of deterioration of productivity on second and third class land and increase of weeds and pests, then these adverse developments must be offset by direct assistance, subsidy, cost reductions, or other appropriate action. Up to the present new machinery and other labour saving methods have not greatly assisted production on much of the second and third class land or on the high country grazing areas. Hand labour methods still require to be used. The lack of maintenance, increase of weeds and pests, and deterioration, which unfortunately is occurring in large portions of these areas, is obvious to all. Yet maintenance of soil, and, if possible, increase of production from all types of farm land is New Zealand's duty, and is necessary if New Zealand is to carry out its obligations to Britain and other members of the United Nations in the present food crisis. At the date of issue of this bulletin a Royal Commission is sitting to investigate mainly the problems of deterioration on the second and third class grazing areas of New Zealand. It is to be earnestly hoped that sound recommendations as to remedy are proposed and that these recommendations are adopted by the community. Since all industrial and commercial development in New Zealand is based on the land, it is to the interest of the whole community that progressive improvement of farming should be promoted.

A broad survey of production thus shows that New Zealand is mainly dependent on her pastoral and dairying industries to provide exports. Other industries provide necessary goods and services for domestic consumption, but, being dependent on the Home market, they expand roughly as the population increases. The greatest increases in production in the recent past, and the opportunity for expansion in the near future, appear to lie in animal products. Agricultural production has not increased greatly, and agricultural exports have declined. But an increasing production per acre, per unit of live stock and per person engaged has been secured by changes and improvements in the technique of farming. Present tendencies are for expanding production of wool, high quality milk products, and fat lambs for export with pork, fruits, cereals, grass seeds, etc., as important subsidiaries. There is still much scope for expansion in the more intensive utilisation of grass land, by improved management of pasture, by scientific stock selection and nutrition, and the same type of improvement is possible elsewhere by application of the knowledge which research makes available. It is to the wider dissemination of particular phases of such knowledge that many of the other bulletins of this series are devoted.

Copies of this Bulletin may be obtained from the Secretary, Canterbury Chamber of Commerce, P.O. Box 187, Christchurch.

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