FARM SIZE AND FACTORS INFLUENCING CHANGES IN FARM SIZE WITH PARTICULAR REFERENCE TO NEW SOUTH WALES (1900-1948).

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CONTENTS.

Summary.

1. The question of what constitutes the most desirable size of the farm unit has been one of the most contentious issues of agricultural and land policy in many countries overseas as well as in Australia. The purpose of this article is not to discuss "The Clash of Ideals on Farm Size," but to examine the factors responsible for changes in farm size, particularly in New South Wales, and to describe such changes in farm size as have taken place in this State since the beginning of the century.

2 Although the size of the farm unit can be measured in terms of area, stock numbers, money turnover, labour units, etc., in this study farm size is measured largely in terms of area and stock numbers. This is not because these are necessarily regarded as the most desirable units of measurement, but because insufficient statistical information for New South Wales prevents measurement in other terms.

3. The most important factor in New South Wales tending to reduce farm size is the policy of subdividing large estates; a policy which has been pursued consistently during the last 50 years. The Closer Settlement Policy, as practised after the 1914-18 war, has involved the State in very large losses, which have, to a certain extent, been the result of subdivision into units which were too small for economic operation.

4. Another factor which has, in the opinion of the writer, had a lesser influence in reducing farm size is the Commonwealth Land Tax, first introduced in 1910-11. This tax is progressive, and has become more progressive since its introduction. However, the average level of the tax has fluctuated; moving broadly in agreement with the export price level of rural commodities.

5. When measured in terms of area, a reduction in farm size may occur as a result of an intensification of land use. This is exemplified in New South Wales by the drift from grazing towards wheat-growing, dairying and fruit and vegetable production. In some cases there has been a corresponding increase in the number of labour units per farm, but the overall effect of this particular factor has been towards decreased farm size.

6. The most important factor which tends to increase the size of farms is the greater efficiency with which capital and labour can be used on the larger farms. All available evidence, not only from Australia, but also from the United States, New Zealand and Great Britain suggests that the capital investment necessary on larger farms is relatively lower, so that the rate of profit rises as farms become larger; or given a certain rate of interest, larger farms tend to produce greater labour incomes for their operators.

7. Machinery, which is an important factor in many types of rural production, increases the acreage which can be handled by one man, and further, as the acreage is increased, the machinery employed can be more fully utilised. No information has been obtained as to the minimum size of farms for each type of land use which is compatible with the least cost of production for each commodity, but it is safe to say that a large proportion of all farms in New South Wales are too small to operate at the lowest possible cost.

8. Farm size can only increase if either new land is made available for rural purposes or if existing farms are amalgamated. In this State the area under occupation for rural purposes has declined slightly since 1900; hence such increases in farm size as have taken place, have been the result of amalgamation of farms. Such amalgamation is considerably accelerated if high incomes in the non-rural sections of the economy induce small farmers to sell out. However, high incomes in the non-rural sector also draw off the hired rural labour required to run larger-than-family farms. Hence, such conditions seem to favour most the large family-sized farm unit. Low incomes in agriculture are usually associated with considerable unemployment in industry and this tends to restrict occupational mobility. However, in the long run, those rural industries and those rural districts in which incomes are especially low, tend to lose the largest proportion of their labour force.

9. A trend towards larger farms has also become apparent in the United States of America, Canada and Great Britain. In the United States, farms with 1,000 acres or more, occupied 25 per cent. of the total rural land area in 1920. By 1940 this had increased to 40 per cent. In the United Kingdom "average farm size" measured in acres has increased by 22 per cent. in the last sixty years. In Canada during the same period average farm size increased from 98 acres to 238.5 acres.

10. In New South Wales (excluding the Western Division) average farm acreage reached its lowest point in 1914-15 and has increased by 32 per cent. since then. Averages of this kind are, however, misleading as they conceal differences in the size distribution and also regional differences. Between 1911 and 1947-48 the number of holdings with 50-500 acres declined considerably. The number of holdings with 500-1,000 acres increased between 1911 and 1926-27, declining slightly in the next twenty-one years. Farms with 1,000-20.000 acres have increased considerably in importance between 1911 and 1947-48. In 1911 about 50 per cent. of all rural land was held in units of 1,000 to 20,000 acres; by 1947-48 these holdings comprised approximately 70 per cent. of the total rural land acreage. The decline of farms with more than 20,000 acres can be attributed to Closer Settlement Policy, shifts to more intensive farms of land use and progressive land taxation. The greater efficiency and profitability of the larger farms and the greater bargaining power of the larger farmer are largely responsible for the reduction in the number of small farms.

11. There are significant variations in the various areas in New South Wales which are discussed in Appendix II. Farm size has increased most rapidly in the Tablelands, followed by the Western Slopes Divisions, Central Plains and Riverina. In the Coastal Divisions, average farm size increased between 1914-15 and 1929-30 and has declined since then.

12. In this area dairying is of major importance. Dairying is one of the few rural industries which has not increased in size. Mechanisation in the dairy industry has had the effect of reducing the amount of hired and family labour (especially female labour) used per farm, rather than leading to an increase in the number of stock carried per farm.

13. In the wheatgrowing industry the introduction of power-driven machinery has been responsible for a threefold increase in average wheat acreage sown per farm between 1900 and 1930. Since then there has been a small decline.

14. In the pastoral industry the most prominent feature has been the decline in the number of very large flocks (over 20,000 sheep). Very small flocks (less than 500 sheep) have increased considerably in numbers; most wheat farms in New South Wales have adopted the practice of running sheep as a side-line. As a result of these two factors, average flock size declined very rapidly between 1891 and 1916; since then average flock size has increased by 30 per cent. In the last twenty years flocks with 2,000-5,000 sheep have grown relatively most rapidly.

15. No evidence is available which would show whether concentration of control by one landholder over two or more holdings has increased in the last fifty years, but judging by figures for the inter-war years, there seems to be a long run increase in the proportion of hired rural labour and sharefarmers to total rural working population. The decline in rural population and the increasing proportion of sharefarmers and hired labour raise various economic and social problems which are outlined in the last section of this study.

I. INTRODUCTION.

*In this study an attempt will be made to measure the changes in farm size which have occurred in New South Wales since the beginning of the twentieth century and also to discuss the various factors which have influenced such changes. The first question which arises when discussing changes in farm size relates to the most appropriate criterion of farm size. The size of a farm enterprise can be measured in many different ways; acreage, labour units, money incomes or turnover, stock numbers, etc., can all be used. The choice of the most appropriate measure depends largely on the purpose for which this information is obtained. If it is desirable to obtain information regarding the relation of farm size to productivity, labour units and turnover expressed in monetary units are probably the best measures. If changes in farm size are studied from the point of view of obtaining some information regarding the number of farms which can or will be settled in a given area, measurement in terms of acreage seems more appropriate.

It has not been possible to choose between various measurements of farm size for this study because the statistical material available in New South Wales is limited so that most of those measures which bear on the question of farm size have been used, although it must be admitted that some of these measures have severe limitations if they are used for a purpose for which they are not suited.

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*The writer wishes to express his gratitude to Messrs. McGrath and Powell of the New South Wales Bureau of Statistics and Economics for making 1947-48 figures available to the writer prior to their publication in the New South Wales Statistical Register.

The Rural Reconstruction Commission (Report No. 3, para. 478) has drawn attention to "The Clash of Ideals on Farm Size." The Commission pointed out that "There must be a compromise between the search for complete efficiency which may demand somewhat larger farm units on one hand and the pressure for independent ownership at all costs on the other." It is not the purpose of this article to discuss this clash of ideals. However, it is the duty of economists to point out that economic losses are sustained as a result of inadequate farm size. The community may decide that social and/or political reasons outweigh consideration of economic efficiency, but in any case, such a choice can only be made rationally when it is recognised that an economic loss is entailed by such a policy. The writer only ventures to point out that considerations of economic efficiency must necessarily weigh more heavily in a country like Australia which exports a very large proportion of its primary production and must therefore expect keen competition from other countries in foreign markets in normal times than in a country which does not export such a large proportion of its primary produce.

II. FACTORS TENDING TO REDUCE FARM SIZE.

(a) Commonwealth Land Tax.*

Commonwealth Land Tax was first imposed on the unimproved value of land in 1910/11. Since 1910/11 the rate has been adjusted frequently and its movements have followed fairly closely the movement of the export price level of rural commodities. The original rate of tax was progressive, becoming more severe as the unimproved value of the holding increased. The rate increased from $1\frac{1}{30000}$ d. in the first £1 of taxable value to 3½d. in every £1 at £75,000. The excess over £75,000 was taxed at a flat rate of 6d. on every £1. In 1914-15, the rate was made more progressive, rising from $1\frac{1}{18750}$d. in the first £ to 5d. in every £1 at £75,000. The excess over £75,000 was subject to a flat rate of 9d. on every £1. In addition, residents were allowed a statutory exemption for the first £5,000, of unimproved value of land held. This deduction was not allowable for absentees who were taxable on the remainder at 1d. more per £1 than residents. The provision allowing a deduction of £5,000 and the provision penalising absentee landholders were already embodied in the original tax schedule of 1910-11.

In 1918-19, the rate was increased by 20 per cent. This increase was withdrawn in 1922-3. The rate was then further reduced in 1927-28, 1932-3 and 1933-4. Between 1933-4 and 1937-8, when the rate of tax was at its lowest level, it was 45 per cent. of the 1914-15 rate. Since then, the rate has been increased; by 1940-41, the 1914-15 rates were restored and in 1941-2 a further increase in the rate was made where taxable value exceeds £20,000.

* For a more detailed study of Commonwealth land taxation the reader is referred to: "Economic Aspects of Australian Land Taxation," by J. M. Garland, M.U.P., 1934, and No. 6 Rural Reconstructoin Commission Report.

The original sponsors of the tax had two main aims in view:—(1) the breaking up of large estates and the prevention of "land monopolies" and (2) to obtain some part of the increment in value accruing to landowners as a result of the increase in population and general progress of society. The Rural Reconstruction Commission (Report No. 6, p. 174), has pointed out that "These two purposes are extremely difficult to reconcile in the one tax measure."

The main question concerning us here is to what extent the tax has achieved its first objective, *i.e.*, the "breaking up" of large estates. The Rural Reconstruction Commission maintained "that it is difficult to avoid the conclusion that the Commonwealth Land Tax . . . has had some influence in forcing a considerable proportion of the country taxpayers into the lower grades of the tax or out of its field" (No. 6 Report, p. 176). This view is based on the reduction of the rate of the tax by 40 per cent. between 1914-15 and 1931-32. This reduction must be the result of a smaller proportion of landholders paying the higher rates which are applicable to holdings with a large unimproved capital value. That the proportion of large holdings in New South Wales has declined considerably can also be demonstrated by reference to the proportion of sheep which are kept in large flocks in New South Wales. In 1891, more than 62 per cent. of all sheep in New South Wales were kept in flocks of 20,000 sheep or more. In 1911, this proportion had declined to slightly more than 28.5 per cent. By 1941, only 9.15 per cent. of all sheep in New South Wales were kept in flocks of more than 20,000 sheep.

How much of this decline in large holdings can be attributed to the operation of the Commonwealth Land Tax? The Rural Reconstruction Commission points out that "owing to the operations of these other factors (*i.e.*, intensification of land use and the policy of the various States encouraging closer settlement) it is impossible to attribute the whole result to the operation of the Commonwealth Land Tax or even to estimate the extent to which large estates would have been broken up without the tax" (Report No. 6, p. 176).

Whilst it is true that no accurate estimate can be made of the influence of the tax on the disintegration of large holdings, two considerations suggest that the influence of the tax in this direction has been comparatively small in New South Wales. In the first place, it will be noticed from the figures given above that disintegration of large holdings began long before the imposition of the Commonwealth Land Tax at least as far as New South Wales is concerned. Secondly, one can obtain some indication of the influence of the tax in this State from the fact that the vast majority of all estates used for closer settlement had to be acquired compulsorily although there is provision for voluntary subdivision schemes. If the Commonwealth Land Tax had been successful in imposing such a burden on the large landholder that further operation of large areas would have been unprofitable, then landholders would have come forward voluntarily in much larger numbers to have their estates subdivided.

(b) State Land Legislation and Closer Settlement.

Some knowledge of the earlier history of land settlement in New South Wales is essential to appreciate the objects of Land Legislation during the twentieth century. Prior to 1860, the squatter or pastoralist

reigned supreme in the rural economy of New South Wales. Squatters had, early in the nineteenth century, occupied large tracts of land which were outside the then settled areas. Until 1832, unsuccessful attempts were made to dispossess the squatters, but then they obtained the right to remain and were granted grazing leases at fixed rentals. Leases were granted upon tender for areas up to 50 square miles in unsettled districts. Under this system, practically the whole of the State was speedily occupied in extensive "runs."

After the gold rush (which commenced in 1851) had subsided, many of the immigrants who had originally been attracted by the lure of gold attempted to settle on the land, only to find that most of the available land was held in large leases by pastoralists who had no intention of parting with any portion of their leases voluntarily. The movement for small settlement had been growing for some time and under the final impetus given by the presence of thousands of land-hungry immigrants, Sir John Robertson, in 1861, succeeded in forcing a "Free Selection" Bill through the Legislature. In old and intermediate lands (the State had been divided into three areas, old, intermediate and unsettled), anybody could select from 40 to 320 acres on condition of paying one-quarter of the purchase price and residing on the land. At the end of three years the balance was to be paid and freehold given. This represented the first big move towards establishing a small farmer class. This Act, which was amended in 1875, failed in its object and the same is true of the Crown Lands Act of 1884 which superseded the 1861 Act. One of the main reasons why these Acts failed to achieve their purpose was that transfers of land to big landholders was allowed to continue unchecked. Further legislation was passed in 1895, 1901, 1903 and 1905 which provided new forms of tenure and was somewhat more successful in its object to reverse the tendency towards aggregation of land into large holdings.

Since 1900 there have been repeated amendments to the land legislation of this State and a multiplicity of new tenures have been created, so that any attempt to deal with them all cannot be undertaken here. All that will be attemped is to give a rough outline of the more important features of land legislation in as far as it affects changes in farm size.

The Crown Lands Act of 1901 provided for the acquisition and subdivision of "offered" lands, but contained no provision for compulsory acquisition. As a result, the Act remained practically inoperative. In 1904, compulsory resumption of private lands, where the unimproved capital value exceeded £20,000, was introduced. Estates acquired were to be subdivided and allotted to farmers who were not allowed to own any land already, nor could such farms be transferred to farmers already holding land. Under this Act, up to 30th June, 1914, 2,074 farms comprising 936,110 acres, had been allotted.

In 1909 a Crown Lands (Amendment) Act was passed. Two features of this Act should be mentioned here, being relevant to the problem of farm size. First, the Act for the first time defined a "home maintenance area" which was to be regarded as the basis for determining the size of farms to be allotted. A "home maintenance area" was defined as "an area which, when used for purposes for which it is reasonably fitted, would be sufficient for maintenance in average

seasons and circumstances of an average family." The Rural Reconstruction Commission (Report No. 3, p. 108) has pointed out that, "taken too literally, it could mean mere subsistence and reduction to peasant farming. Wise administrators, however, have adopted a more liberal interpretation . . ." On the other hand, the Commission regards a home maintenance area as a criterion of "minimum" and not of "proper" farm size. It goes on to point out that the "proper" size of the farm unit cannot be determined in terms of gross income or capital cost, but should be determined on the basis of efficiency. This point will be dealt with in greater detail below.

Secondly, this Act introduced the principle of the "restricted" title. Land alienated after 1909 and most of the leases granted after that date could only be transferred by sale to individuals who did not already hold land "substantially in excess of a home maintenance area." It is impossible to obtain information regarding the total area which is affected by this principle, but according to a rough estimate, based on land alienated and leases granted since 1909, between 35 and 40 million acres in New South Wales (excluding the Western Division) would be so affected. The economic consequences of this provision depend, of course, largely on the interpretation which is placed on the term "substantially in excess of a home maintenance area." If too narrow an interpretation is used and if holdings substantially in excess of a home maintenance area are the most efficient for the production of a commodity, attempts will be made to evade the law by various means. If this should be impossible, we would expect that a price differential will arise over a long period between similar lands with restricted and unrestricted titles.

The impact of the 1914-18 war caused a fresh demand for small farms. The story of the attempts to settle a large number of returned servicemen on the land after the 1914-18 war has been told many times. The total number of returned soldiers originally settled in New South Wales was 9,846; by 30th June, 1947, more than half the original settlers had left their farms and only 4,425 remained. The States incurred very large losses in the process; in New South Wales amounting to over £7,000,000, by 1929, and for the Commonwealth as a whole totalling more than £23,500,000. According to the Rural Reconstruction Commission the accumulated loss for Australia in 1943 amounted to about £45,000,000. Separate figures for New South Wales have not been published.

The causes responsible for these large losses were manifold. Some of the settlers had little training or aptitude for farming. The temporarily high level of rural prices led to high cost in purchasing land for settlement, and also produced an optimistic frame of mind as to the minimum area necessary for a settler to make a reasonable living. As a result, when prices fell in the later 'twenties and especially during the 'thirties, large numbers of settlers were not in a position to make ends meet, even if their capital liabilities and debt charges were reduced. To a large extent, this was the result of abnormally low prices, but the fact that farms were too small was an important contributory factor. Again, it is impossible, unfortunately, to find out what proportion of settlers left because their farms were too small and what proportion

left for other reasons. Here again we have to content ourselves with a statement that inadequate farm size was one of the main factors responsible for the abandonment of farms.

When farm prices had fallen to their lowest level in 1932-3 the Rural Reconstruction Board was set up in New South Wales to assist farmers unable to meet their commitments, to administer moratorium legislation passed in 1932 and to regroup farms into more adequate size units in the South-west marginal wheat area. This area of approximately 3,500,000 acres contained almost 2,000 holdings of which the great majority were too small for efficient operation, taking into account the low yield associated with the scanty rainfall of the area. The Board had no compulsory powers but could only intervene with the permission of the settlers concerned. By 1947, the number of holdings had been reduced to 1,100. The Commonwealth Government made £1,600,000 available to meet the cost of the scheme. Examples of the increase of productivity per head and per unit of capital employed, which resulted from increases in farm size are given in the fifth Report of the Rural Reconstruction Commission. In addition, the Board has also helped a number of farmers outside the area mentioned above to enlarge their holdings and thus to increase their efficiency.

In the depression years of the thirties an Employment Research Committee was set up by the New South Wales Government. A sub-committee investigated Rural Employment and Land Settlement. This sub-committee investigated a number of schemes to settle unemployed on the land. It had to admit that settlers with limited capital resources had generally been unsuccessful in the past. But it forwarded a resolution to the Minister for Labour and Industry, "that Land Settlement and Rural Employment as a means of contributing towards the solution of the present unemployment problem should be encouraged."*

A summary of the estates acquired and their areas for purposes of Closer Settlement and Soldier Settlement is given in Table I. The total area involved, almost 4,600,000 acres, does not include land used for Soldier Settlement in the Western Division.

It will be seen from this brief description of the history of land settlement in New South Wales that non-economic considerations have exercised the major influence on the form of land legislation. In other words, the criterion for settlement has not been to produce the largest amount of rural products with the least possible amount

*The account of the history of land settlement given here is of necessity brief and, to a certain extent, over simplified. Further information on this subject can be obtained from:—

S. H. Roberts—History of Australian Land Settlement; Melbourne U.P. 1924, (especially Part 5—The Period of Closer Settlement).

S. M. Wadham & G. L. Wood—Land Utilisation in Australia; M.U.P. 1939, Land Settlement in New South Wales—Australian Quarterly; September, 1933, p. 64-74. Land Utilisation in Australia—Australian Quarterly; June, 1939, p. 65-70. 1940-41 Official Yearbook of New South Wales, p. 894-900—Closer Settlement. Historical Review, p. 4-8; 68th Report of the New South Wales Department of Lands (1946-47).

The most detailed account of soldier settlement in Australia after the 1914-18 war was given by Mr. Justice Pike in his Report on Losses due to Soldier Settlement. Commonwealth Government Printer, 1929.

TABLE NO. 1.—ESTATES ACQUIRED TO 30TH JUNE, 1947, FOR CLOSER SETTLEMENT, INCLUDING :—
(*a*) Soldier Settlement, 1914–1918 War.
(*b*) War Service Land Settlement, 1939–1945 War.
(Schedule 9, p. 25 of the 68th Annual Report of the New South Wales Department of Lands, for the year ended 30th June, 1947.)

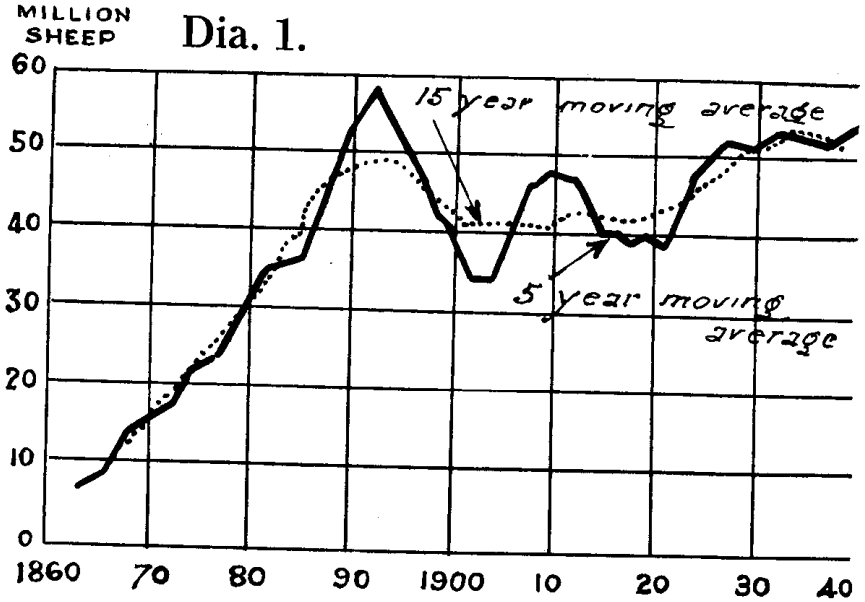
How Acquired.	Total Acquired.				(*a*) For Soldiers on, 1914–1918 War.				(*b*) For War Service Land Settlement, 1939–1945 War.			
	Estates.	Farms.	Area.	Purchase Price.	Estates.	Farms.	Area.	Purchase Price.	Estates.	Farms.	Area.	Purchase Price.
	No.	No.	Acres.	£	No.	No.	Acres.	£	No.	No.	Acres.	£
Closer Settlement Acts—Promotion Section—												
1911–1946	1,653	3,955*	1,823,333	8,480,135	1,457	2,282	1,198,502	5,578,946	...	...	...	...
1946–1947	14	53	58,470	327,583	...	...	...	...	14	53	58,470	327,583
Total	1,667	4,008*	1,881,803	8,807,718	1,457	2,282	1,198,502	5,578,946	14	53	58,470	327,583
Ordinary Provisions—												
1905–1946	81	3,344*	1,443,144	5,874,598	25	837	396,061	1,809,729	3	47	52,508	248,012
1946–1947	18	263†	337,073†	1,414,926†	...	...	...	...	18	263†	337,073†	1,414,926†
Total	99	3,607†	1,780,217†	7,289,524†	25	837	396,061	1,809,729	21	310†	289,581†	1,662,938†
Crown Lands Act—Section 197—												
1917–1946	23	376	34,682	293,195	22	352	30,491	274,344	...	...	...	...
1946–1947	...	...	...	...	...	...	...	...	...	...	...	...
Total	23	376	34,682	293,195	22	352	30,491	274,344	...	...	...	...
Direct Purchase—												
1918–1946	30	673*	90,164	506,855	27	538	85,218	450,947	...	...	...	...
1946–1947	...	...	...	...	...	...	...	...	...	...	...	...
Total	30	673*	90,164	506,855	27	538	85,218	450,947	...	...	...	...
Closer Settlement Act No. 74 (Long Term Leases)—												
1913–1946	70	784	803,217	200,802	...	...	...	...	...	...	...	...
1946–1947	...	...	...	...	...	...	...	...	...	...	...	...
Total	70	784	803,217	200,802	...	...	...	...	...	...	...	...
Grand Total	1,889	8,448*†	4,593,083†	17,098,094†	1,531	4,009	1,710,272	8,113,956	35	363	448,951†	1,990,521†

* As reduced during year by amalgamation of farms. † Includes 15 farms comprising 16,127 acres, purchase price £52,413, transferred to Water Conservation and Irrigation Commission.

of labour; on the contrary the criterion seems largely to have been, under the pressure of public opinion, how to settle the largest number of people on the land. This has resulted in a large number of failures partly as a result of a decline in rural commodity prices. But in many cases especially where subdivided estates could be used for more intensive operation involving the production of different commodities (*e.g.*, a change-over from wool to wheat and fat lambs, or from grazing to dairying) the policy has achieved its object in settling more farmers on the land. Even in periods of depression when the precarious financial position of many farmers emphasises the need for increases in efficiency, the problem of efficiency has been over-shadowed by the need to increase employment and thus we find that there is a danger that economic considerations are given too little weight in dealing with questions of land settlement.

(c) Changes in Rural Production and Miscellaneous Factors.

The changes which have occurred in rural production in the last forty to fifty years have tended to reduce farm size as measured in terms of acreage. At the beginning of the century, the wool industry was by far the most important rural industry. Although wool production has continued to increase, partly as a result of the increase in wool production per sheep and partly as a result of an increase in the number of sheep, more intensive forms of land use have increased in relative importance. Taking actual sheep numbers in New South Wales we find that from an all-time record of almost 62,000,000 in



SHEEP POPULATION OF N.S.W.
1860–1940
Copied from "SHEEP POPULATION of N.S.W." by R.S.G. RUTHERFORD, ECONOMIC RECORD, JUNE 1948.

1891 the sheep population fell to 40,000,000 at the turn of the century, largely as a result of a series of bad droughts during the nineties. From 1900 on, the sheep population increased again to 51,600,000 in 1910 but suffered another series of set-backs so that by 1919 only 33,000,000 sheep were depastured in New South Wales. By 1926, the number had increased to 55.7 million. During the thirties, the sheep population remained above 50,000,000 in all years but one (1938) and in the first three years of the forties, fluctuated between 54,000,000 and 57,000,000. Since then, droughts have again reduced the number to 43,000,000. The diagram giving five to fifteen year averages of movements in sheep population since 1860 shows that the increase in sheep population in the period here considered has been much less pronounced than in the earlier period covered by this diagram.

Within the pastoral industry, land use has also been intensified by the increasing importance of fat lamb production. The growth of this industry is indicated by the great increase in lambs slaughtered annually. For the five year period ended December, 1901, an average of 158,000 lambs were slaughtered annually. By 1916, the annual average had increased to 476,000; for the five year period ending in 1931, 1,364,000 lambs were slaughtered annually. Since then, further increases have taken place and in the five years ending in December, 1946, over 3,500,000 lambs were slaughtered annually.

Intensification of land use within the pastoral industry has also been achieved by sowing indigenous and imported types of grasses. Whilst a large part of the increase in the area of sown grasses (which increased from 442,700 acres in 1901 to 3,419,400 acres in 1941 in New South Wales) has been in the coastal area where dairy farming predominates, substantial increases have also been reported from the non-coastal areas. In 1901, only 105,300 acres in non-coastal divisions were sown grasses; by 1941, this had increased to over 1,097,000 acres. The stock-carrying capacity of pasture land is greatly increased by this practice so that farm size in terms of stock units may be maintained in spite of a decline in area size of farms. The area of sown pastures is of course still not as large as might be desirable. Another factor increasing the amount of livestock which can be carried is the practice of growing green food which increased very greatly during this century. For the ten year period 1896-1905 the average annual acreage in New South Wales for green food (all crops) was less than 150,000 acres; for the ten year period 1936-45 the corresponding figure was 623,460 acres.

Of greater importance from the point of view of farm size was the growth in the total area under crop. The annual averages for the two ten year periods mentioned above were 2,316,000 acres and 5,940,000 acres. The area under wheat (for grain) more than doubled. At the beginning of the century 1,408,000 acres (ten year average) were sown to wheat; in the latter period the average was 3,825,000 acres. (This average was unduly depressed as a result of very small wheat plantings during some of the war years.)

Other more intensive forms of land use also increased greatly in relative importance. The vineyard acreage in the late thirties and beginning of the forties was almost twice as great as at the beginning of the century. The productive acreage of citrus orchards increased from 15,600 acres (1903-12 average) to 23,500 acres (1937-46 average) and other orchards increased from 23,900 acres to 45,200 acres during the same period. Furthermore, there was an equally great increase in acreage used for vegetable production.

Dairying, another more intensive form of land use than grazing, also increased considerably in importance. Milk production increased from approximately 130,000,000 gallons to over 300,000,000 gallons in the pre-war years. (Since then, production has declined considerably but is still over 250,000,000 gallons and seems to be on the increase again.) The dairy cow population increased from approximately 500,000 head to more than 1,100,000.

All these changes in land use would have the effect of reducing farm size when measured in terms of acreage, involving as they do, diversion of land from grazing to other forms of agricultural production which do not need as much land in relation to the input of labour and other factors of production.

Finally, mention should be made of miscellaneous factors which tend to reduce farm size. First of all there is the division of a holding into two or more parts when a rural owner operator bequeathes his land to his children who want to carry on on their own. The writer does not believe that this is an important factor reducing farm size in this State. Another factor which should be mentioned is the system of tenure. Where private tenancy arrangements are of great importance it seems likely that increases in farm size will not be accomplished as rapidly as they would when owner-operators predominate. This is so because rents are largely based on market values of land and do not take into account the lower productivity of land when grouped in holdings of inadequate size. The effect will be primarily one of depressing the living standard of the tenant rather than forcing the landlord to enlarge his holding.

III. FACTORS TENDING TO INCREASE FARM SIZE.

(a) Mechanisation.

Mechanisation, which is commonly regarded as an important factor in bringing about changes in farm size, has proceeded fairly rapidly in New South Wales. The number of tractors on rural holdings in New South Wales increased from 6,242 in 1930; the first year for which figures are available, to 12,926 in 1939. By 1946, 17,530 tractors were used on rural holdings. The number of tractors per 100 holdings used mainly for agricultural and pastoral purposes increased from 8.5 in 1930 to 17.8 in 1939 and 24.6 in 1946. Increases in the numbers of other labour-saving machines have also taken place.

Why does mechanisation act as a factor increasing farm size? Most of the power-driven agricultural machinery is rather expensive and only pays for itself if this expenditure can be spread over a larger production of the particular commodity concerned. The substitution of machinery for horse-power or labour (in the case of milking machines) increases the output per farm worker. In "The Progress

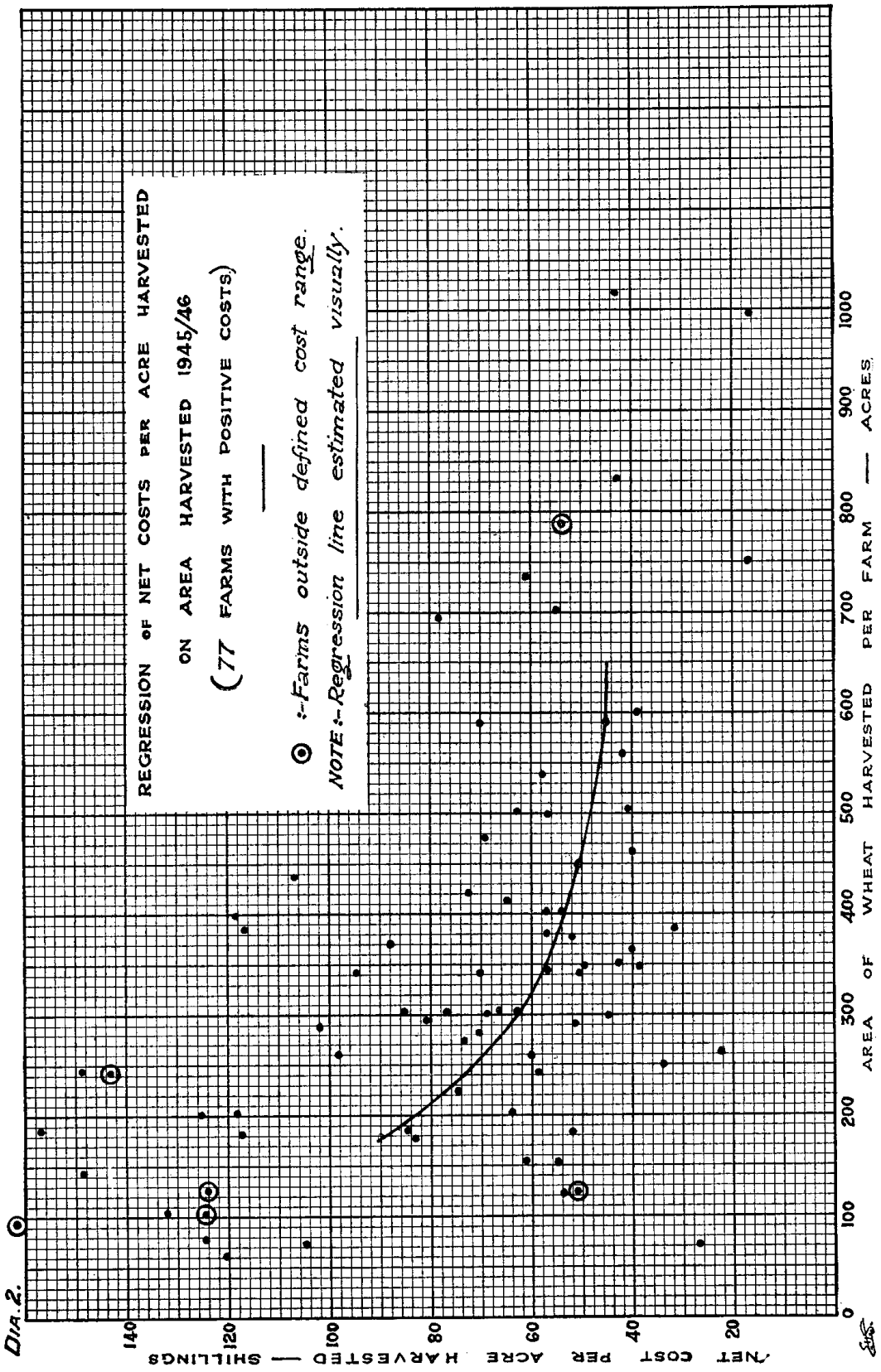
of Farm Mechanisation" (U.S. Department of Agriculture Miscellaneous Publication No. 630), the authors estimate that the number of man hours necessary to produce 100 bushels of wheat in U.S.A. has declined from 152 in 1880 to 108 in 1900 and to 47 in 1940. As most farms are worked by small family units with occasional use of additional labour the use of machinery enables and also necessitates the cultivation of a larger area by the same labour force, thus leading to larger farms expressed in terms of acreage. Another factor which operates to increase fam size is that seasonal conditions limit the time during which certain farm operations such as for instance, harvesting can be carried out and as machinery enables a given quantum of work to be done in a shorter time, farmers purchase machinery which then gives them an additional incentive to enlarge their operations.

This tendency may be counteracted in two ways. Firstly if individual farmers do not purchase the new expensive types of machines but hire them from contractors or from co-operative machinery pools it may still be possible to take advantage of such machinery without individual small farmers being financially overburdened by incurring the expenditure involved in purchasing them. A certain amount of private contract work with expensive machinery does in fact take place in this State and in some areas machinery is available through co-operative machinery pools which were established by the Government during the last war. However, most farmers try to purchase their own machines wherever possible because of the critical importance of using them just at the time when climatic conditions are most propitious. Farmers have found by experience that the very time when they most want machinery from contractors or machinery pools, it is not available because all other farmers in the district are also attempting to obtain it.

Secondly, farm machinery is becoming available in smaller sizes, thus reducing the overhead expenses which have to be incurred. However, there are limitations in this direction. Smaller machinery is seldom as economical, when measured in terms of overhead or running expenses per unit of output. Furthermore, when completely new types of farm machinery are evolved, they are usually only available in larger sizes. For instance, when tractors were first used on farms, only large-sized tractors were available. At the present time, the same applies to the one-man pick-up haybalers, a comparatively new type of machine which is so expensive that small farmers, growing about 40 acres of lucerne or less, cannot afford to use it. In the case of lucerne hay production, costs can be lowered only with the use of the one-man pick-up baler, when approximately 80-100 acres of lucerne can be grown.

Even if smaller machinery is used, the optimum size of the farm is usually larger than the optimum size prior to the introduction of machinery. To put this in more concrete terms, the optimum size of a wheat farm, even where small tractors are used, is still larger than the optimum size at the time when horse teams were employed as the only source of farm power.

The influence of size on cost of production in the case of mechanised farming can be seen in the diagram reproduced below which shows the net costs of wheat-growing per acre as a function of the area of wheat harvested. This diagram refers to a sample of 77 wheatgrowers in Western Australia in 1945-46. It is taken from a "Survey of Costs of Production of Wheat in Western Australia," by Sheila Rowley. (A copy of this survey was available to the writer in mimeographed form).


REGRESSION OF NET COSTS PER ACRE HARVESTED
ON AREA HARVESTED 1945/46
(77 FARMS WITH POSITIVE COSTS)
⊙ :- Farms outside defined cost range.
NOTE :- Regression line estimated visually.
NET COST PER ACRE HARVESTED — SHILLINGS
AREA OF WHEAT HARVESTED PER FARM — ACRES
0
20
40
60
80
100
120
140
100
200
300
400
500
600
700
800
900
1000

DIA. 2.

The visually estimated regression line has not been subjected to tests of statistical significance, but the relationship shown is one which we would expect to find in this case.

It seems likely that a similar relation between wheat acreage and cost of wheat-growing exists in New South Wales, although figures are unfortunately not available in this form. The general shape of the cost curve sloping downwards from left to right we would expect to find in all those rural industries where expensive machinery is used which cannot be fully utilised on the smaller farms.

(*b*) *Greater efficiency of larger units.*

Apart from better utilisation of machinery on larger farms, other factors of production will also be employed more efficiently. Both capital and labour can be employed to greater advantage on larger holdings. Van der Post in "Economics of Agriculture" gives some interesting tables based on studies in various countries showing the competitive advantage of larger holdings. One set of figures, reproduced below relating to Danish agriculture, shows the larger capital per acre necessary for smaller holdings.

TABLE No. 2.

Capital Invested per Acre.

Size of Holding.	Land.	Buildings.	Working Capital.
	£ s. d.	£ s. d.	£ s. d.
Under 25 acres	16 10 0	18 8 0	20 12 0
25 to 50 acres	17 5 0	13 5 0	15 8 0
50 to 75 acres	19 3 0	12 4 0	14 15 0
75 to 100 acres	18 18 0	11 18 0	13 8 0
100 to 250 acres	18 10 0	9 18 0	11 10 0
Over 250 acres	19 8 0	10 2 0	10 7 0

Van der Post points out that the amount of capital needed for buildings and working capital per unit of value of land is more than twice as great on the smallest holdings than on the larger holdings. "This in itself, however, would not be so harmful, were it not that the relatively higher capitalisation costs on the smaller holdings contain a considerably higher percentage of non-productive capital" (p. 168, op. cit.).

In New South Wales, climatic conditions favour livestock production and obviate the necessity for winter housing for livestock, but the considerations of less capital invested per acre still apply. In the case of sheep farming, larger holdings are able to economise on woolsheds, shearing sheds, dipping facilities, etc. The Rural Reconstruction Commission has pointed out that "if a sheep station carrying 15,000 sheep and earning interest on £5 per acre is cut up into ten smaller properties, the net capitalisation per acre may well rise to between £6 and £7 per acre before the settlers have established their holdings in proper working order" (3rd Report, p. 103).

Furthermore, larger holdings are, as a rule, able to employ labour more efficiently and thus increase output per head. A special inquiry into dairying costs of production in New Zealand in 1935-36 showed that the number of cows milked per head rises steadily as the size of the dairy herd increases.

TABLE No. 3.

Labour Outputs on Dairy Farms in New Zealand.

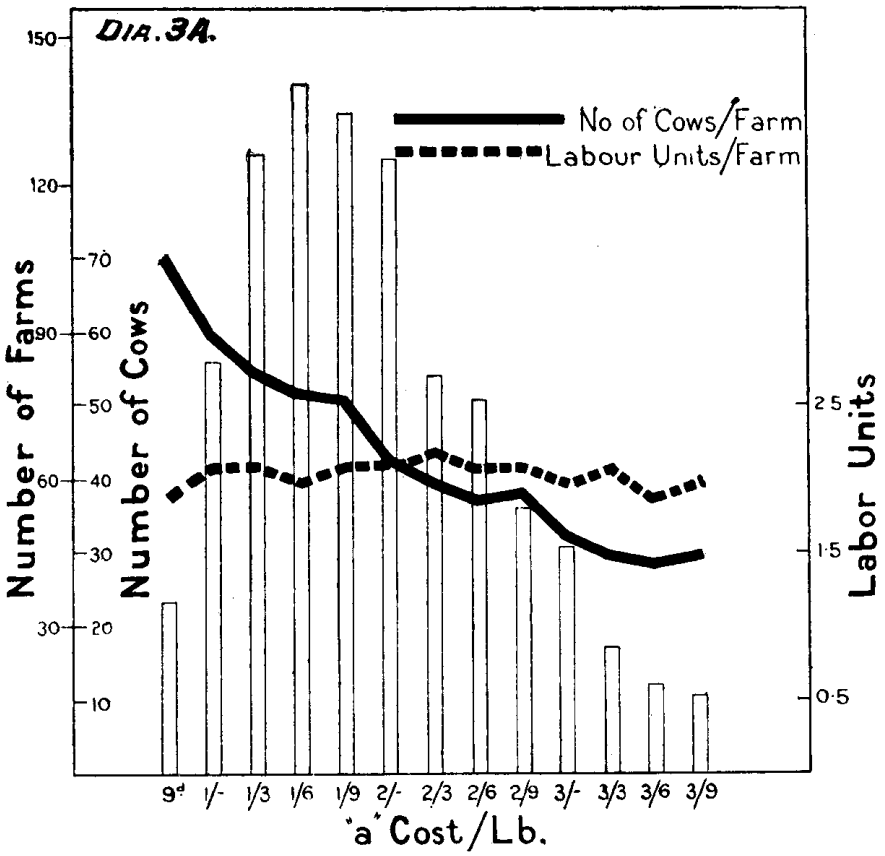
Size of Dairy Herd (Number of Cows Milked).	Butter-fat Production per Acre Used for Dairying.	Average per Full-time Male Equivalent.		Average Net Money Income per Full-time Male Equivalent.
		Butter-fat Produced in 1935–36.	Cows Milked.	
	lb.	lb.	No.	£
5–9	121.4	2,004	7.6	114.3
10–19	80.4	2,190	10.5	124.1
20–29	84.7	3,006	14.4	170.0
30–39	96.2	4,028	18.2	226.8
40–49	100.3	4,533	20.2	254.8
50–59	105.3	5,130	22.4	288.5
60–69	113.5	5,652	24.1	316.6
70–79	116.8	6,051	25.7	337.6
80–89	117.6	6,100	26.4	341.6
90–99	123.3	6,315	26.2	351.3
100–119	124.2	6,452	27.3	358.9
120–139	128.4	6,444	27.5	360.3
140–179	129.0	6,522	27.9	365.5
180–219	120.5	7,044	31.4	391.1
220–259	132.8	7,097	30.1	400.0
260–299	117.3	5,538	24.9	311.9
300 and over ...	145.6	7,576	32.8	437.3
All Herds ...	105.4	4,540	20.0	255.0

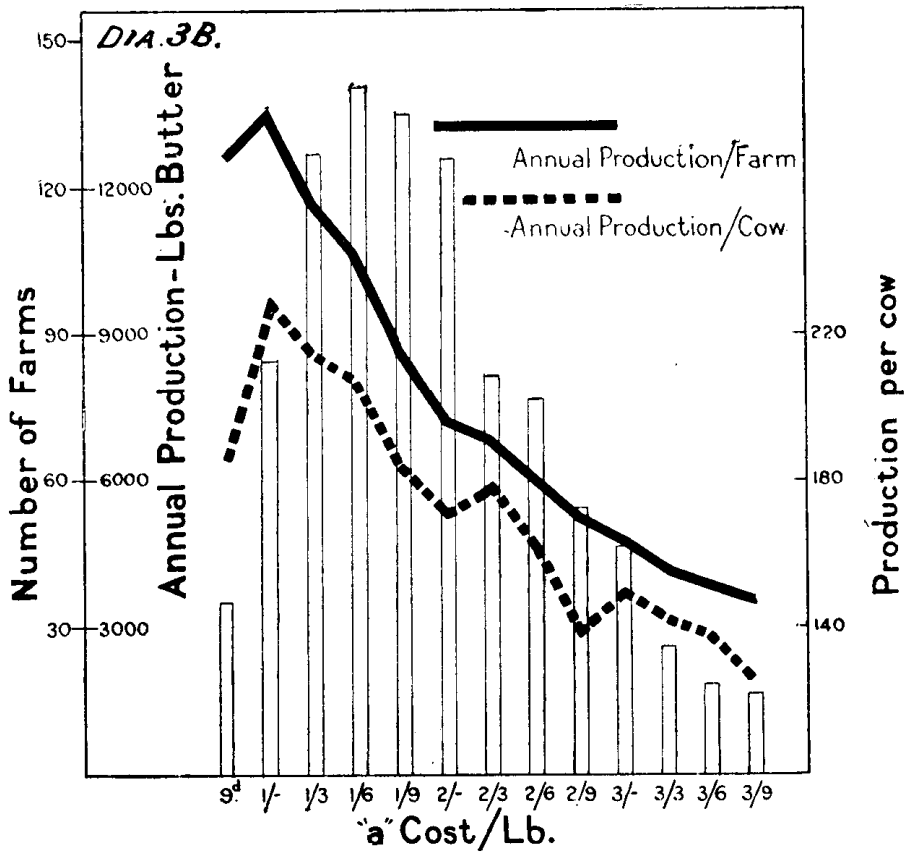
(Reproduced from *Economic News*, February-March, 1947).

It will be seen that Average Net Money Income per Full-time Male Equivalent (Column 5) rises considerably as the size of the Dairy Herd is increased. In part this greater efficiency on larger farms is produced by the use of milking machines, which are most economical when used for larger herds.

Similar results for the dairying industry in butter-producing districts in Australia have been obtained by the Joint Dairy Advisory Committee which measured the cost of production on 1,000 dairy farms selected at random. The figures obtained by this Committee relate to the five-year period from the 1st July, 1940, to the 30th June, 1946. Figures 3A and 3B of the Report are reproduced on page 23.

DIAGRAMS 3A AND 3B.
"A" Cost of Production of Butter for Australian Dairy Farmers, 1940/1–1945/6.





The "A" costs of production include farm costs, labour, rent and depreciation, but leave out interest on capital employed. If similar figures, including interest on capital, were used, the discrepancy between large and small farms would be even greater. The drop in Diagram 3B at the beginning of the cost range is probably the result of the method employed by the Committee to ascertain costs of production. The Committee deducted total income from sidelines from total costs before arriving at costs attributable to butter production, the assumption being that no profit is made on the sidelines. The figures in Table III of the Report show that "other income" for the "A" cost class of 9d. was considerably higher than for the succeeding six cost classes, which means that there was a larger deduction from total costs to arrive at costs attributable to butter production. This would tend to give a fictitiously low value of butter costs in this case. Also if the figures reproduced above had included the 6d. "A" class group (for which there were, however, only 11 farms) the upward trend of Annual Production per Farm (Figure IIIB) would have been resumed.

Diagram 3A shows that whilst the cost of production of butter declines as the number of cows per farm increases, there is little change in the number of labour units used per farm. In other words, there is no evidence from Australian figures that larger-than family farm units are more efficient than family farms in dairying, but in terms of stock units or butter production it seems that many dairy farms are too small to achieve maximum efficiency. It is probable that the carrying capacity of many of these farms can be increased; but it is also likely that an increase in area-size of dairy farms in many cases would reduce production costs (provided that the larger area can be managed by the same labour force).*

It should be mentioned that the size of dairy herd given in the New Zealand and Australian tables are not comparable because the figures for New Zealand relate only to cows milked, whilst the Australian figures include dry cows as well.

The larger productivity per man-year of large farms is also well demonstrated by a survey made jointly by the U.S. Departments of Commerce and Agriculture, based on sample data from the 1940 Census. A table from their publication "Analysis of Specified Farm Characteristics (cited by H. W. Herbert, Economic News, February-March, 1947) is reproduced on page 25.

The increase in the net product per man-year as farm size increases is very striking. Most of the American farms are family farms, and even in the 4,000-5,999 dollar group one-half of the labour was still family labour. Of all labour engaged in American agriculture 77 per cent. was family labour, but larger farms have increased considerably in importance in the last twenty years. The change in farm size in U.S.A. will be considered in greater detail in Section IV.

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*The data for N.S.W. which were collected in this survey have been made available to this Division, and it is hoped to make a more detailed analysis of the various factors influencing the cost of production of butter in this State in the next few months.

TABLE No. 4.

New Product per Man-year on American Farms.

Gross value of products in dollars.	Number of farms (thousands).	Labour per farm* (man-years).	Net product per farm (dollars per year).	Net product per man-year (dollars).
0	88	0.64	— 61	— 95
1–99	331	0.97	— 16	— 16
100–249	813	1.18	78	66
250–399	821	1.38	190	138
400–599	871	1.54	312	203
600–749	479	1.68	427	254
750–999	574	1.72	578	336
1,000–1,499 ...	709	1.83	796	435
1,500–1,999 ...	416	1.96	1,094	558
2,000–2,499 ...	264	2.06	1,391	675
2,500–3,999 ...	376	2.29	2,054	897
4,000–5,999 ...	166	2.86	3,148	1,101
6,000–9,999 ...	89	3.60	5,149	1,430
10,000 and over...	58	8.56	21,110	2,466

* The average for the total of 6,096,000 farms (including unclassified) covered by the analysis was 1.72 man-years per farm.

The greater profitability of larger holdings which is shown in all these tables is largely the result of factors already mentioned, namely, the more efficient use which can be made of capital, machinery and labour on large holdings. However, there is one further factor increasing the profitability of large holdings which should be mentioned, and that is the greater bargaining power of the large farmer. By selling his produce in larger quantities he may be able to obtain lower cartage rates from local contractors and from the railways. Also he may be able to secure economies in purchasing his requirements. Large farmers are also usually in a better financial position than small farmers and that enables them to sell at more propitious times, whilst the small farmer is frequently forced to sell immediately after the product is ready for the market. The writer has recently had his attention drawn to one particular rural industry where these considerations are of great importance, namely, the lucerne hay industry. The price of lucerne hay in New South Wales is generally about £7-9 per ton in normal seasons. However, when any large district experiences serious droughts or flooding reduces the amount of feed available, prices may rise up to £15-16 per ton. Large farmers make a practice of storing hay in periods of bad prices and selling when prices rise above £10 per ton. One grower, known to the writer, sold 3,000 tons on a city market recently at £13 per ton, whilst most of the smaller growers in his district were (*a*) not in a position to hold such large quantities of hay and (*b*) not able to take sufficient time off from their farming operations to travel to the city to obtain the highest prices.

Similar evidence on the greater profitability of large farms is available for English agriculture. F. W. Bateson ("Towards a Socialistic Agriculture," p. 112) gives a table showing output per acre and output per worker on 262 mixed farms in a district in the Midlands in 1942-43.

TABLE No. 5.

Output per Acre and per Worker.

Sizes of Farms.	Output per acre (per centage of optimum).			Output per worker (per centage of optimum).		Mean output.	No. of farms.
Acres.							
16–24	108			50		79	5
25–49	105			58		82	15
50–74	95			71		83	38
75–99	90			73		82	30
100–149	89			95		92	50
150–199	84			120			41
200–249	79	79	80	109	112	96	31
250–299	80			117			13
300–399	76			98			22
400–499	79			126			8
500–599	70			90			3
600–799	86	78	80	134	120	100	2
800–999	95			138			2
Over 1,000 ...	80			108			2

The figures in the table above are percentages of an optimum determined by taking account of the proportion of good, fair and bad land on each farm. F. W. Bateson comments: "It will be seen from this table that, though output per acre decreases and output per worker increases as the farms get larger, the output combining the highest efficiency both per acre and per worker is found only on farms over 400 acres in size. It may be presumed, therefore, that the optimum farm size for the type of mixed farming practised in this district is 400 acres plus. If the 245 farms under this acreage are regrouped into ninety farms of not less than 400 acres each, the increase in mean output—*i.e.*, in efficiency—would theoretically be expected to be of the order of 7 per cent. (p. 112 *op. cit.*).

Earlier evidence for the United Kingdom has been collected by C. S. Orwin, formerly Director of the Agricultural Economics Institute, Oxford. Orwin's tables, based on data collected by J. Price Howell, also illustrate the same tendency for production per acre to decline and production per worker to increase as the size of the holding increases.

TABLE No. 6.

Relation of Size of Holding to Income.

Group.	Production per acre.	Production per man employed.
	£ s. d.	£ s. d.
1 to 50 acres	11 19 9	169 19 0
50 to 100 acres	9 19 2	156 2 0
100 to 150 acres	7 19 1	189 0 0
150 to 250 acres	7 5 8	222 12 0
Above 250 acres	8 4 4	316 19 0

(Table reproduced from Van der Post: "Economics of Agriculture," p. 175.)

These last two tables raise the question whether the object of agricultural policy should be to aim for the highest production per acre or to aim for the highest production per man. It is of course not possible to be sure that these two aims are in conflict in New South Wales, just because, under entirely different conditions, they are in conflict in the United Kingdom. However, it seems very likely that similar conditions, in this respect, exist in Australia. Unfortunately, data is not available in this form here, but many students of the problem in Australia accept the contention that in most areas in this country, higher production per acre can only be achieved at a proportionately greater expenditure of labour. Thus Professor G. L. Wood maintained in 1930 ("Immigration in Relation to Primary and Secondary Industries," p. 117 in *The Peopling of Australia, M.U.P.*") " . . . in the settled portions, where the greatest development is possible, agriculture is already operating under conditions of diminishing returns." If conditions of diminishing returns do operate in this State in the high rainfall areas, we are faced with the question of deciding in favour of high production per acre or high production per man. This choice is to a large extent made "automatically" in the absence of legislation to the contrary.

In an economy like the Australian one, where choice of occupation is left more or less free, individuals will tend to move from those occupations which offer a low income to those which offer higher incomes. This trend operates as a long-term force which may be interrupted and even reversed for a series of years as a result of greater opportunities for employment offering in the lower-paid occupations, but in spite of these interruptions it does exert a powerful influence on occupational distribution over a longer period of time. In the pre-war decade in Australia there is evidence that the income per capita in rural industries was below the national average. To quote Mr. J. G. Crawford, Director of the Bureau of Agricultural Economics: ". . . It was apparent that the rural economy was not able, without increased Government aid, to maintain all the farmers and farm workers at living standards broadly comparable with those of the urban dwellers. In crude statistical terms, farm breadwinners were about 21 per cent. of the total breadwinners in the decade ending in 1939, but their share of the national income averaged only 17-18 per cent. and fluctuated widely. In real terms, it was evident that better facilities for education, higher housing standards, wider recreational opportunities and more abundant social services were available to the urban dweller than to farm dwellers." (P. 191-2 *Australia,* edited by C. Hartley Grattan, University of California Press, 1947.) Since 1939, prices have changed considerably in favour of the primary producer, but it is already evident that prices of primary products will not remain for long at the present level in relation to prices of manufactured goods.

If, therefore, it should be decided as a matter of policy to aim at increasing production per acre at the expense of production per man, it will be necessary either to restrict occupational mobility, and this is not only undesirable but also completely impractical, or so to adjust relative price levels of primary and secondary production within the economy as to increase the profitability of farming. This could be done either by increasing the prices of primary products and

divorcing them from world prices (if the world price level of primary products should fall) or by lowering the prices of manufactured products by reduction of tariff protection and possibly other measures.

A detailed discussion of such measures or of their desirability is beyond the scope of this article, but it is necessary to point out the implications of such a policy, as they are frequently not realised by advocates of more intensive farming methods. Nothing that has been said so far implies that improved agricultural methods (*e.g.*, improved crop varieties or livestock breeds) would not lead to more intensive farming without reduction of income per head. Again, if the pattern of land utilisation is changed—by irrigation or cultivation of land for wheat where it was formerly used as grazing land, maintenance of production per head is compatible with increased production per acre. The contention here is that an attempt to increase output per acre without improvement in methods or change in land utilisation leads to a reduction in production per man which will set up certain counteracting influences unless legislative measures to the contrary are put into operation. It is of course never a question of deciding solely in favour of one or the other alternatives (*i.e.*, output per acre or per head) but only a question of degree—how much more of one alternative and how much less of the other. In an economy such as the Australian one, economic factors to a large extent decide such a question in the absence of comprehensive legislation favouring another alternative.*

In the absence of comprehensive legislation as broadly outlined above, attempts to increase output per acre tend to defeat themselves, unless they are accompanied by improvements in methods or changes in land use. Furthermore, in as far as they are successful in settling more people on the same area of land than would normally settle there, they tend to reduce income per head.

Attention should also be drawn to the technical agricultural aspect of this problem. Smaller farms may—although this is by no means universally true—have a more detrimental effect on soil fertility and erosion than large farms. The writer is not in a position to evaluate the seriousness of this aspect, but it is one which should be considered in any discussion of farm size.

(c) How Incomes in Rural Industries; High Incomes in Non-rural Industries.

Increase in farm size (in terms of acreage) can only come about if either additional land is used for rural purposes or if farms are abandoned by farmers. The total area of farm land in New South Wales has remained almost constant during the period considered here. Hence increases in farm size in New South Wales are the result of consolidation of existing rural holdings. Amalgamation of farms is considerably accelerated by a high level of incomes in the economy as a whole or by very low incomes in rural occupations.

Low incomes in agriculture are usually associated with considerable unemployment in the secondary and tertiary industries. This tends to restrict occupational mobility and will thus prevent, for the

*We must therefore reject the attempt made by Bateson in Table No. 5, Column 4, to work out a composite index of efficiency, based on an average of output per acre and output per worker.

time being, a switch to more lucrative occupations by those farmers and rural employees who are most seriously affected by low incomes. During the worst depression years there was a noticeable increase in the number of rural breadwinners and in their proportion to total working population. To a certain extent this was the result of a migration of unemployed to the country. In addition, many boys and girls, who would otherwise have sought employment in industry after leaving school, remained on their parents' farms.

However, in the long run, low incomes seem to act as a strong force inducing farmers to abandon their occupations. According to Earl O. Heady, there is a definite relationship between low farm incomes and farm consolidation in Iowa. ("Pattern of Farm Size Adjustment in Iowa", Research Bulletin, No. 350, Agricultural Experiment Station, Iowa.)

TABLE No. 7.

Relationship between Farm Consolidations, 1920-1940, and Gross Cash Income per Farm in 1939 for Iowa.

Counties with a per farm value of products sold and used in the home falling in stated intervals (dollars).	Average income per farm (dollars).	Per cent. change in number of farms over 19 acres in size, 1920 to 1940 by countries.*
0–1,999	1,575	— 5.8
2,000–2,999	2,498	— 3.2
3,000 and over	3,470	— .1

* Correlation coefficient between average farm income and per cent. change in number of farms per county significant at the 1 per cent. level of probability.

In New South Wales the most depressed rural industry during the last fifteen years has been the wheat industry. It is significant that those regions which on the average have the highest wheat acreage (Lachlan, Macquarie, Murrumbidgee) have also been the one's which have lost the largest proportion of their population between 1933 and 1947. But here again data is not available in New South Wales to enable us to determine whether a similar statistical relationship can be established in this State.

The effect of high incomes in non-rural industries on the size of the labour force in agriculture is well known. A high level of employment and a high level of incomes and wages in non-rural industries draws off large numbers of rural workers, especially rural wage earners, sharefarmers, and tenants, but to a lesser extent also smaller owner-operators. The shortage of rural labour which has become characteristic of periods of abnormal prosperity also usually enables farmers to enlarge their operations by purchasing smaller farms in the vicinity. One of the most important effects of the shortage of hired labour is to increase the rate of mechanisation. Individual farmers find themselves forced to purchase machinery so as to reduce as much as possible their reliance on hired labour, which becomes increasingly difficult to obtain, especially at those periods of the year when it is most urgently needed.

It seems likely that such conditions strengthen the position of the large, family-sized farm. Small family farms with low incomes tend to sell out. whilst the great shortage of experienced hired rural labour is most strongly felt on the larger-than-family farms.

IV. Changes in Farm Size in Other Countries.

In those overseas countries where productivity in rural industries has increased, farm size has also increased. In the United Kingdom the acreage of the "average farm" has increased by 22 per cent. between 1885 and 1945. According to O. J. Beilby (cited by Bateson op. cit.) total agricultural output during the same period increased by 70 per cent., output per acre by 132 per cent., output per holding by 182 per cent. and output per man by 120 per cent. A large part of this increase, though by no means all of it, occurred during the last war. (Respective figures for 1938 are:—13 per cent., 11 per cent., 36 per cent., 54 per cent., 61 per cent.). The table given below shows the changing distribution of holdings in various acreage groups.

TABLE 8.

Average Farm Acreages—England Wales, 1885-1945.

	1885.	1913.	1921.	1930.
Total number of holdings ...	452,988	435,677	420,133	395,823
Total average agricultural land	27,698,000 acres.	27,129,000 acres.	26,144,000 acres.	25,380,000 acres.
Acreage of average holding ...	60 per cent.	62 per cent.	62 per cent.	64 per cent.
Holdings of 1–5 acres	25.22	21.18	19.33	18.44
Holdings of 5–50 acres ...	44.20	45.71	46.92	45.96
Holdings of 50–100 acres ...	12.13	13.61	14.52	15.59
Holdings of 100–300 acres ...	14.81	16.40	16.15	16.92
Holdings over 300 acres ...	3.64	3.10	3.08	3.09

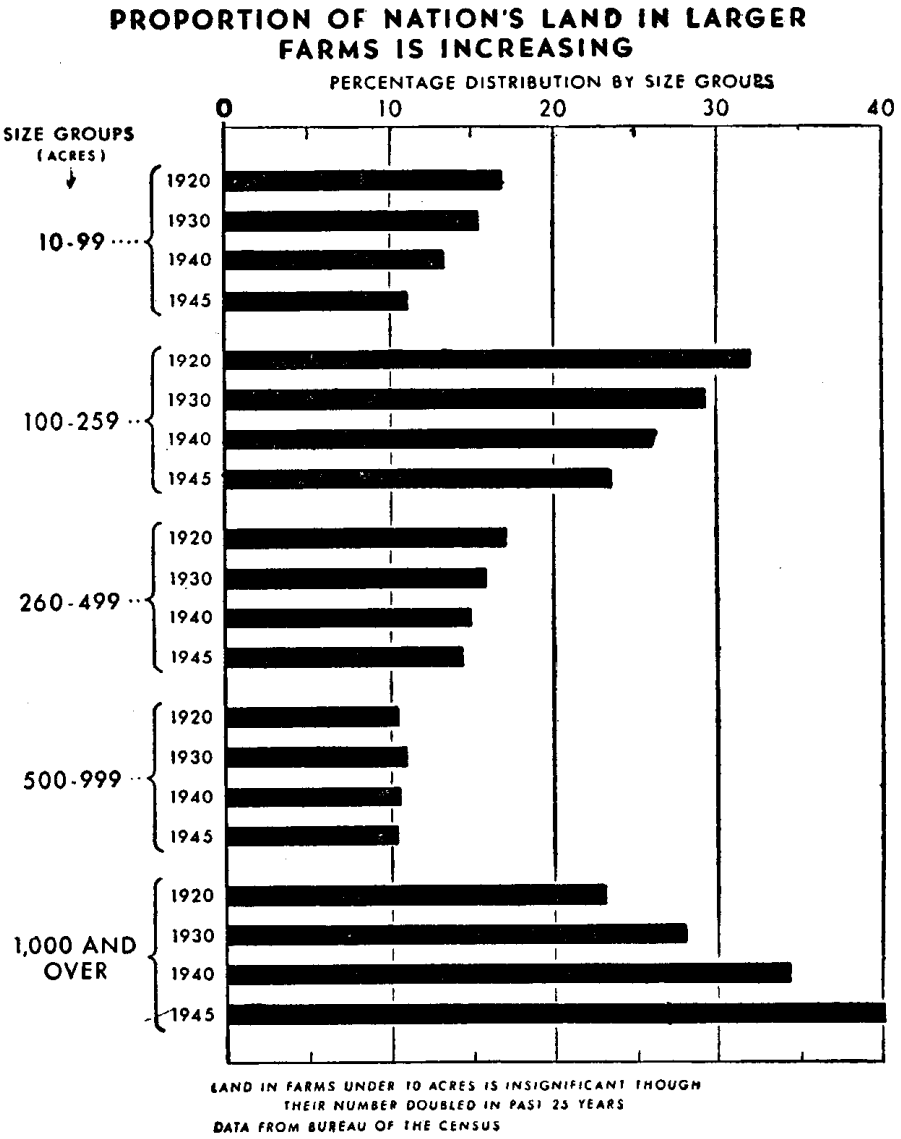
	1935.	1938.	1945 (estimated).
Total number of holdings ...	379,727	365,972	330,000
Total average agricultural land	24,957,000 acres.	24,711,000 acres.	24,000,000 acres.
Acreage of average holding ...	66 per cent.	68 per cent.	73 per cent.
Holdings of 1–5 acres	17.69	17.05	16.00
Holdings of 5–10 acres ...	44.49	44.52	40.00
Holdings of 50–100 acres ...	16.41	16.86	17.00
Holdings of 100–300 acres ...	18.27	18.29	21.00
Holdings over 300 acres ...	3.14	3.28	6.00

It will be noticed that the proportion of holdings with more than 100 acres has increased since 1921. There has also been some increase in the proportion of holdings using between 50-100 acres, whilst holdings of less than 50 acres have tended to decline. The actual size of holdings is not for our purpose as significant as the general trend. Climatic conditions in the United Kingdom make it possible to derive a reasonable living from much smaller areas than in New South Wales, although, of course, output per head in agriculture is much lower in the United Kingdom than in this country.

The increase in farm size in England has probably been retarded to a certain extent by the institutional framework within which British agriculture operates, namely the divorce between ownership of agricultural land and actual operation of farming which is very widespread in the United Kingdom. In addition, there are technical difficulties preventing farm size expansion such as the more permanent nature of fencing in the United Kingdom, etc.

In the United States, there has been a considerable increase in farm size in the last thirty years. "Average farm size" measured in terms of acreage has increased from 138 acres in 1910 to 174 acres in 1940. This change is the result of a decline in the proportion of the farm land

DIA. 4.



Agricultural Situation, January, 1947.
(U.S. Department of Agriculture.)

held in farms with 500 acres or less. Farms with 500-1,000 acres have held their ground whilst the proportion of farm land held in units of over 1,000 acres has increased considerably. Farms of over 1,000 acres occupied less than one-fourth of the total rural land area in 1920, whilst in 1945, 40 per cent. of all rural land was held in such large farms.

More data are available for analysis in the case of agriculture in the United States than for the agriculture of any other country. It is possible to analyse farms also with respect to gross value of production which is in many ways a more satisfactory index of farm size than acreage. J. C. Ellickson and J. M. Brewster, of the U.S. Bureau of Agricultural Economics tabulate United States farms according to income groups in an article entitled "Technological Advance and the Structure of American Agriculture" (Journal of Farm Economics, November, 1947). The table given below has been based on figures given in that article.

TABLE No. 9.

U.S. Farms—Classification According to Value of Output.

	Per cent. of all farms.	Per cent. of production from.
*1. Small farms—		
1900	74.5	44
1930	69.3	35
1940	65.8	29
1945	58.8	22
†2. Medium-sized farms—		
1900	25.0	48
1930	29.6	52
1940	32.8	53
1945	39.2	57
‡3. Large farms—		
1900	0.6	8
1930	1.1	13
1940	1.4	18
1945	2.0	21

*1. Farms reporting value of products from $400–$1,499.
†2. ,, ,, ,, $1,500–$9,999.
‡3. ,, ,, ,, Over $10,000.

In the original article, the authors call the three types of farms "inadequate," "family," and "larger than family." However, the writer is of opinion that their classification is misleading as the classification into family and larger than family farms is substantially different from the classification according to income. Thus in the group reporting a value of products of 10,000 dollars and over, more than two-fifths of all farms employ one or no hired worker, whilst 10 per cent. of the farms in this group accounted for over 60 per cent. of all hired labour in 1940. Furthermore, if the classification adopted by the two authors is adhered to, these figures would give the impression that "larger than family farms" are becoming more important, which is not borne out by the figures (cited in the same article) of the proportion of hired labour to total labour employed in agriculture. There is no indication at present that there is a long-run tendency

for the proportion of hired labour to increase in the United States. Such an increase would be expected if "larger than family farms" are becoming more important. On the contrary, hired workers as a percentage of total labour force in agriculture, declined from 25.5 per cent. in 1925 to 22.2 per cent. in 1935, increasing to 24.3 per cent. in 1940, declining again in 1945 to 21.7 per cent.

A further point which should be raised in this connection is that the value of the monetary unit adopted in this classification has declined considerably, so that farm output measured in dollars would have increased more than in real terms. It would therefore have been more desirable if the dollar limits in the classifications above had been revised in each census year. Whilst this is a defect in the above table, the very large increase in the production from large farms cannot be explained away. Furthermore, similar figures compiled by Anna Rochester ("Why Farmers are poor"; International Publishers, N.Y., 1940 p. 73), in which some allowance is made for changes in the purchasing power of the dollar, show the same trend towards a larger proportion of total farm produce originating on the larger farms. Unfortunately her figures are only taken up to 1930.

Finally, it should be mentioned that a similar increase in average acreage per farm has been reported from Canada, where the size of the "average farm" has increased from 97.7 acres in 1881 to 238.5 acres in 1941.

V. Changes in Farm Size in N.S.W.

(a) General.

Perhaps the simplest measure of farm size is the average number of acres per rural holding. Such figures should, however, be used with caution because they can be very misleading. Quite apart from all the disadvantages which all acreage measures of farms size have, average acreage per holding does not take into account changes in size distribution which may be very considerable, but need not affect the average acreage. In New South Wales such changes in farm size as have occurred, have in fact, to a certain extent, had the tendency to counteract each other in their effect on average acreage. The general trend has been for very large holdings to be subdivided into smaller farms and also for very small farms to be consolidated or absorbed by medium-sized farms. The average acreage per holding shows only the net effect of these two counteracting tendencies.

A further difficulty which arises is that the grouping of the State into Statistical Divisions was changed substantially in 1923, so that, especially in the Western slopes and Plains Divisions average figures before and after 1923 are not comparable. The average acreage figures are given in Table No. 10, but the limitations inherent in this measure must be borne in mind.

It will be noticed that the movement in average size of rural holdings differs considerably in the various areas. In the Coastal, Tablelands and Western Slopes areas the lowest average farm acreage was reached in 1914-15, and has increased since then, except in the coastal area, where this trend has again been reversed since 1929-30. In the Central Plains and Riverina Divisions, the lowest average farm size was reached in the 'twenties and since then farm size has been on the increase. Figures

TABLE NO. 10.

Average Size of Rural Holdings.

(In acres.)

Division.	1906–07.	1911.	1914–15.	1919–20.	1921–22.	1924–25.	1929–30.	1933–34.	1936–37.	1946–47.
North Coast	434	357	356	353	340	382	418	391	397	368
Hunter and Manning ...	521	470	462	525	550	521	537	541	529	515
Metropolitan	44	38	35	57	68	69	70	64	53	44
South Coast	345	334	331	419	492	500	519	509	485	481
Total Coastal	322	285	280	356	393	400	422	407	389	360
Northern Tableland ...	1,727	1,500	1,376	1,568	1,660	1,647	1,721	1,739	1,750	1,852
Central Tableland ...	725	666	651	724	833	886	971	1,005	1,032	1,093
Southern Tableland ...	1,272	1,231	1,219	1,445	1,522	1,613	1,789	1,760	1,793	1,785
Total Tableland	1,118	1,029	990	1,129	1,243	1,242	1,339	1,360	1,386	1,437
N.W. Slope	1,954	1,588	1,503	1,698	1,770	1,813	1,855	1,918	1,939	1,973
C.W. Slope	1,277	1,147	1,094	1,174	1,244	1,470	1,572	1,568	1,583	1,615
S.W. Slope	1,134	1,014	950	1,052	1,097	1,132	1,181	1,214	1,241	1,238
Total W. Slopes	1,421	1,233	1,165	1,293	1,354	1,402	1,456	1,487	1,514	1,528
N.W. Plain	5,348	4,629	4,385	4,656	4,893	3,761	3,924	4,096	4,047	4,090
C.W. Plain	5,244	4,922	4,369	4,198	4,276	6,018	5,399	5,404	5,590	6,138
Riverina	3,867	3,061	2,468	2,456	2,228	2,175	2,189	2,204	2,211	2,402
Total W.P. and Riverina	4,524	3,832	3,266	3,244	3,099	3,197	3,153	3,191	3,229	3,475
East of Darling	33,120	33,645	32,382	34,599	36,688	35,477	27,963	32,013	29,746	.....
West of Darling	38,610	39,710	39,929	61,959	65,766	64,649	65,875	68,037	64,565	.....
Total West. Division ...	35,990	36,727	36,212	45,791	48,543	47,344	41,496	45,681	43,060	37,870
N.S.W. excl. West. Div.	1,146	1,025	975	1,142	1,225	1,221	1,274	1,282	1,279	1,285
Total N.S.W.	2,028	1,806	1,726	2,009	2,176	2,187	2,266	2,289	2,281	2,270

for the distribution of all holdings according to acreage groups are available for three years during this period, namely 1911, 1926-27 and 1947-48.

Although there are significant variations between the various divisions, Tables No. 11 and No. 12 give a fairly good overall picture of the changes which have taken place in the distribution of farm size according to acreage in this State.

TABLE No. 11.

Holdings—N.S.W. Minus Western Division.

Size Group in Acres.	1911.		1926-27.		1947-48.	
	Total Number of Holdings.	Per cent.	Total Number of Holdings.	Per cent.	Total Number of Holdings.	Per cent.
Under 51	38,008	40.33	14,622	19.08	14,652	20.16
51–100	7,895	8.38	7,072	9.23	5,269	7.25
101–500	23,838	25.30	23,792	31.04	20,732	28.54
501–1,000 ...	9,201	9.76	11,848	15.45	11,033	15.19
1,001–3,000 ...	9,753	10.35	12,828	16.74	17,309	23.82
3,001–5,000 ...	2,348	2.49	3,011	3.93		
5,001–10,000 ...	1,777	1.89	2,262	2.95	2,446	3.37
10,001–20,000 ...	721	0.77	741	0.97	866	1.19
20,001–50,000 ...	495	0.53	372	0.49	275	0.38
50,001–100,000 ...	134	0.14	78	0.10	60	0.08
Over 100,000 ...	68	0.06	22	0.02	15	0.02
Total ...	94,238	100.00	76,648	100.00	72,657	100.00

The definition of "rural holding" has been amended between the two census years, 1911 and 1926-27, and a large number of rural holdings (mainly in the metropolitan area) where farming is only carried on as a minor sideline have been excluded in the latter year. If the number of such holdings is subtracted from the 1911 total of 94,238, only 69,549 rural holdings remain for that year. If it is assumed that all holdings were of less than 50 acres the number of such holdings is reduced to 13,319.

The importance of holdings of less than 500 acres has declined in spite of a small increase in the numbers of holdings with less than 50 acres, if the proportion of total land held in units of less than 500 acres is taken as a measure. In 1911, 7.47 per cent. of all land in New South Wales (excluding the Western Division) was held in farms of 500 acres or less; by 1947-48 only 6.27 per cent. of all land was held in units of less than 500 acres. The number of holdings with 500-1,000 acres and their total acreage increased between 1911 and 1926-27, falling slightly in the next 21 years. The number of holdings with 1,000-20,000 acres and their relative importance increased considerably between 1911 and 1947-48. In 1911, 49½ per cent. of all laond was held in such size groups; in 1947-48 the proportion had increased to 69.9 per cent.

TABLE NO. 12.

Area—N.S.W. Minus Western Division.

Size Groups in Acres.	1911.		1926-7.		1947-48.	
	Total Area in Acres.	Per cent.	Total Area in Acres.	Per cent.	Total Area in Acres.	Per cent.
Under 51 ...	487,313	0.50	327,837	0.35	249,753	0.27
51–100... ...	622,251	0.64	545,303	0.58	379,821	0.41
101–500 ...	6,114,182	6.33	6,176,180	6.52	5,198,989	5.59
501–1,000 ...	6,551,544	6.78	8,515,091	8.99	7,913,144	8.51
1,001–3,000 ...	16,823,324	17.42	22,071,191	23.30	37,039,522	39.83
3,001–5,000 ...	9,024,572	9.34	11,599,494	12.24		
5,001–10,000 ...	12,043,480	12.47	15,347,816	16.20	16,402,982	17.64
10,001–20,000	9,893,624	10.24	10,203,410	10.77	11,534,339	12.40
20,001–50,000	14,876,301	15.40	10,865,777	11.47	7,914,165	8.50
50,001–100,000	9,275,788	9.60	5,285,346	5.58	4,088,375	4.40
Over 100,000 ...	10,894,391	11.28	3,804,100	4.00	2,282,434	2.45
Total ...	96,606,770	100.00	94,741,545	100.00	93,003,524	100.00

(b) The Sheep Industry.

Considerable changes have taken place in the structure of this industry in New South Wales in the last fifty years. During the latter part of the nineteenth century and perhaps even during the first decade of this century the large graziers with flocks of 20,000 head or more occupied a predominant position in the industry. In 1891, 750 graziers with flocks of more than 20,000 sheep each accounted for over 38.5 million sheep out of a total sheep population of less than 62 million. Expressed in terms of percentages, 5.69 per cent. of all holdings carrying sheep carried 62.36 per cent. of all sheep. Table No. 23 shows how, under the influence of progressive land taxation, closer settlement policy and a shift towards more intensive forms of land use, the proportion of sheep carried in large holdings declined progressively until in 1941, only 9.15 per cent. of all sheep were to be found in flocks of 20,000 sheep or more.

The proportion of sheep in flocks between 10,000 and 20,000 has increased from 11.41 per cent. in 1891 to 17.15 per cent. in 1916, and has since then returned to the 1891 level (11.70 per cent. in 1941). The number of flocks with between 10,000 and 20,000 head of sheep has fluctuated between 350 and 520; in most years between 400 to 500 flocks fell within this category. There has been a steady increase in the number of medium-sized sheep flocks with between 5,000 and 10,000 sheep. The proportion of total sheep population in this flock size group increased from 8.09 per cent. in 1891 to 17.18 per cent. in 1941. There was an even greater increase in the number of flocks with 2,000-5,000 sheep and their importance, measured in terms of proportion of total sheep held in this flock size group, increased from 8.88 per cent. in 1891 to 29.68 per cent. in 1941. In the case of these two flock size groups their increase in relative importance cannot be ascribed to the operation of the closer settlement policy, as the vast majority of holdings subdivided by the State Government would carry less than 2,000 sheep.

TABLE No. 13.

Sheep Flocks, 1891-1941 (N.S.W.).

Classified According to Number of Sheep.

	Under 500.		500–999.		1,000–1,999.		2,000–4,999.		5,000–9,999.		10,000–19,999		20,000–49,999.		50,000 to 009.		Total.		Average Size of Flocks.
	No.	Per cent. of total.	No.	Per cent. of total.	No.	Per cent. of total.	No.	Per cent. of total.	No.	Per cent. of total.	No.	Per cent. of total.	No.	Per cent. of total.	No.	Per cent. of total.	No.	Per cent.	
1891	1,037,879	1·61	1,756,872	2·84	2,979,168	4·81	5,493,942	8·88	4,943,221	8·09	7,056,580	11·41	15,553,774	25·15	23,009,980	37·21	61,831,416	100	4,689
1896	1,356,792	2·81	2,122,161	4·39	2,995,765	6·20	4,976,835	10·30	5,073,474	10·50	6,861,268	14·20	13,722,536	28·40	11,209,959	23·20	48,318,790	100	3,539
1901	1,485,226	3·56	2,311,888	5·54	3,560,849	8·53	5,519,008	13·22	5,210,117	12·49	6,666,429	15·98	10,552,373	25·29	6,423,650	15·39	41,729,540	100	2,385
1906	1,792,199	4·06	2,605,619	5·90	4,327,447	9·81	6,715,317	12·22	5,287,191	11·98	6,966,647	15·79	10,637,410	24·10	5,800,591	13·14	44,132,421	100	2,140
1911	2,363,817	5·26	2,888,729	6·43	5,149,618	11·46	8,554,299	19·03	5,977,233	13·30	7,143,273	15·89	8,737,927	19·44	4,132,391	9·19	44,947,287	100	1,747
1916	2,252,603	6·91	2,630,931	8·07	4,297,424	13·18	6,665,930	20·45	4,863,817	14·92	5,591,998	17·15	4,495,051	13·79	1,802,975	5·53	32,600,729	100	1,318
1921	2,776,308	8·20	3,207,299	9·47	4,882,170	14·42	7,083,742	20·92	4,955,413	14·65	4,850,005	14·33	4,185,143	12·36	1,911,748	5·65	33,851,828	100	1,257
1924	2,606,677	6·94	3,397,026	9·05	5,490,968	14·63	8,095,232	21·56	5,831,116	15·53	5,401,739	14·39	4,420,715	11·78	2,295,940	6·12	37,539,413	100	1,435
1929	2,822,070	5·63	4,805,508	9·58	7,912,167	15·77	12,795,438	25·50	8,257,635	16·46	7,113,710	14·18	4,943,643	9·85	1,519,252	3·03	50,169,423	100	1,582
1934	2,938,808	5·64	4,614,560	8·87	8,177,763	15·71	14,408,708	27·67	8,937,735	17·17	7,126,046	13·69	4,365,184	8·38	1,495,862	2·87	52,064,656	100	1,606
1937	3,066,940	5·77	5,014,767	9·44	8,155,864	15·35	15,141,304	28·49	9,207,791	17·33	6,480,949	12·20	4,399,151	8·28	1,668,080	3·14	53,134,846	100	1,584
1941	2,894,338	5·31	5,465,078	10·02	9,247,395	16·96	16,179,275	29·68	9,368,215	17·18	6,381,389	11·70	4,072,164	7·47	913,884	1·68	54,521,738	100	1,599

"Home Maintenance Areas" in terms of sheep population differ according to the type of grazing which is envisaged. In terms of sheep numbers, a property suitable for fat lamb production would be divided into smaller units than one suitable for breeding Merino sheep and properties where no breeding can be carried on would be still larger. But only in the Western Division (which carries about 7-8 million sheep) would home maintenance areas exceed the 2,000 sheep limit. A large proportion of the holdings subdivided under Closer Settlement Legislation would be found in the 1,000-2,000 sheep group which accounted for less than 5 per cent. of the total sheep population in 1891. In 1941, almost 17 per cent. of all sheep were depastured in flocks of 1,000-2,000 sheep, the absolute number of such flocks increased more than threefold.

The increase in the numbers of small sheep flocks (*i.e.*, less than 1,000 sheep) and their increasing relative proportion is to a very large extent the result of a change to more intensive forms of land use (*i.e.*, a change from wool production to wheat and wool production or wheat and fat lamb production or fat lamb production alone). Unfortunately no figures are available to judge what proportion of the sheep held in small flocks is used for fat lamb production. However, we do know that over 25 per cent. of all sheep in New South Wales in 1935-36 were carried on farms which, in addition to sheep grazing carried on wheat production, either as the main form of production or as a sideline. In the same year over 85 per cent. of all wheat farms carried some sheep.

In the case of the smaller sheep flocks, a much greater proportion of sheep are accounted for by holdings also growing wheat. Holdings growing wheat and carrying less than 500 sheep accounted for about 55-60 per cent. of all sheep in the under 500 size group in 1935-36. In the major wheat growing divisions (Riverina and all Western Slopes) this proportion was between 70 per cent. and 90 per cent. Holdings growing wheat and carrying between 500 and 1,000 sheep accounted for 45 per cent.-50 per cent. of all sheep in the 500-1,000 size group. (In the major wheat growing divisions, this proportion was between 55 per cent. and 80 per cent.).

The size distribution of the sheep population for the different divisions follows the same historical trend as the distribution for New South Wales as a whole. In all divisions, the largest sheep holdings have declined in absolute number and in relative importance. Medium-sized holdings have increased considerably in importance. In areas where rainfall is too low for wheat-growing the smaller sized flocks (up to 2,000 head) are of considerably less importance than in higher rainfall areas. The average size of flock increases as we move away from the coastal areas to drier inland areas, being highest west of the Darling River, which is the driest area in the State.

One more point which should be mentioned is that since 1921 the average size of flock has increased by over 25 per cent. in spite of the fact that the importance of the largest holdings (over 20,000) continued to decline between 1921 and 1941. Since 1921, there has also been a slight decline in the number of sheep in the very smallest size group coupled with a 3 per cent. decline in their relative importance. The proportion of sheep in the 500-1,000 group since 1920 has not shown any marked upward trend. The biggest relative gain in this period was made in the 2,000-5,000 size group. In the future a further increase

TABLE NO. 14.

N.S.W. Number of Sheep Flocks Classified According to Size of Flock.

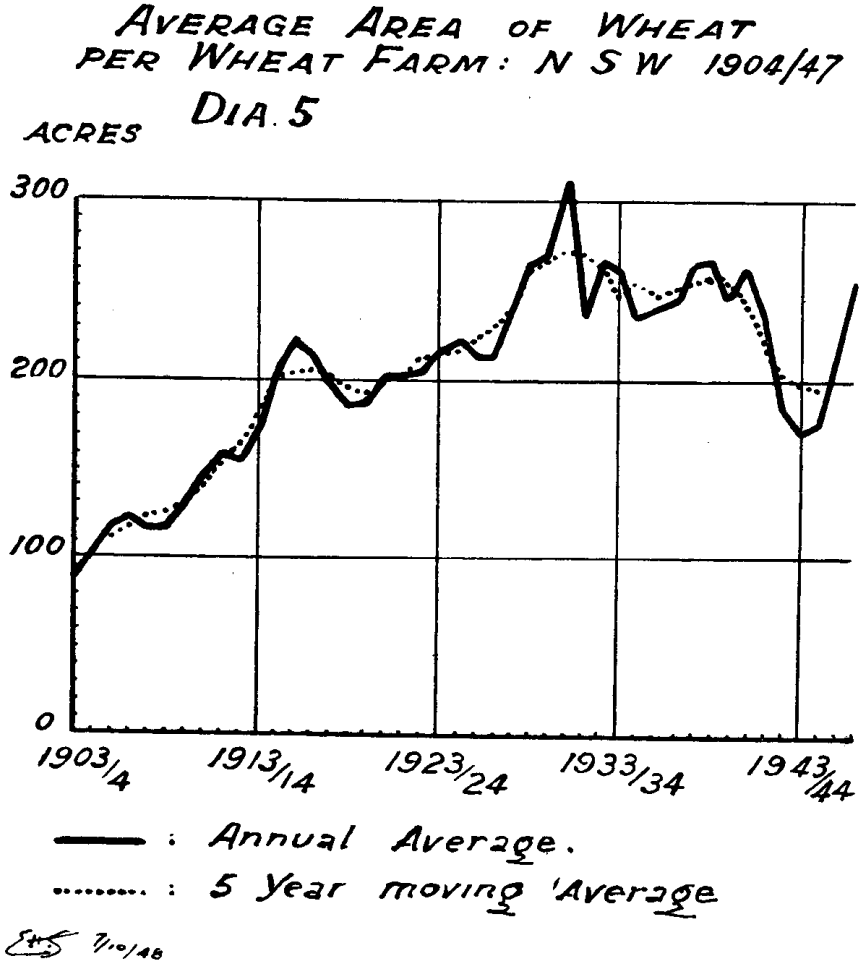
	Under 500.		500–999.		1,000–1,999.		2,000–4,999.		5,000–9,999.		10,000–19,999.		20,000–49,999.		Over 50,000.		Total.	
	No.	Per cent.	No.	Per cent.	No.	Per cent.	No.	Per cent.	No.	Per cent.	No.	Per cent.	No.	Per cent.	No.	Per cent.	No.	Per cent.
1891	5,358	40·63	2,248	17·05	1,954	14·82	1,696	12·86	686	5·20	495	3·75	491	3·72	259	1·97	13,187	100
1896	6,598	48·33	2,240	17·87	1,706	12·49	1,339	9·81	628	4·60	438	3·21	382	2·80	122	0·89	13,653	100
1901	8,838	50·51	2,962	16·93	2,351	13·44	1,722	9·84	729	4·17	465	2·66	344	1·97	88	6·50	17,499	100
1906	10,447	50·65	3,447	16·72	2,925	14·18	2,127	10·31	757	3·67	484	2·35	357	1·73	80	0·39	20,624	100
1911	13,895	54·02	3,878	15·07	3,510	13·64	2,735	10·63	847	3·29	507	1·97	296	1·15	59	0·23	25,727	100
1916	14,576	58·92	3,650	14·75	3,029	12·24	2,206	8·92	696	2·81	398	1·62	159	0·64	24	0·10	24,738	100
1921	15,431	57·32	4,474	16·62	3,459	12·85	2,310	8·58	722	2·68	349	1·30	149	0·55	28	0·10	26,922	100
1924	13,446	51·40	4,752	18·17	3,882	14·84	2,663	10·18	841	3·21	387	1·48	155	0·59	34	0·13	26,160	100
1929	13,061	41·19	6,789	21·41	5,669	17·88	4,271	13·47	1,209	3·82	518	1·63	171	0·54	20	0·06	31,708	100
1934	13,833	42·68	6,545	20·19	5,577	17·21	4,494	13·86	1,277	3·94	511	1·58	154	0·48	22	0·06	32,413	100
1937	13,671	40·77	7,064	21·06	5,819	17·35	4,973	14·83	1,348	4·02	476	1·42	161	0·48	24	0·07	33,536	100
1941	12,517	36·71	7,681	22·53	6,563	19·25	5,326	15·62	1,384	4·06	471	1·38	143	0·42	13	0·04	34,098	100

in the relative importance of medium-sized flocks will probably occur. The number of large flocks which can still be subdivided is not very great. In 1941, there were only 627 flocks with more than 10,000 sheep, which accounted for over 11,000,000 sheep. Of these 3,000,000 sheep were in the Western Division leaving about 8,000,000 sheep in flocks which could be subdivided into small home maintenance units. A large proportion of these would be in the drier areas outside the Western Division.

(c) Wheatgrowing.

As mentioned above, the area devoted to wheatgrowing in New South Wales has more than doubled between the first and the fourth decade of the 20th century. The increase has not been continuous, there have been many setbacks lasting up to five years. During World War 11, a number of factors such as shortage of labour, unfavourable seasonal conditions, unfavourable price prospects have reduced wheat acreage considerably but last year (1947-48) wheat acreage had recovered substantially, being the second largest on record.

The increase in average area sown to wheat per wheat farm has been fairly continuous from 1900 to 1930 as the accompanying graph shows.



The main cause of this increase was no doubt the increasing use of tractors and harvesters on wheat farms. These machines greatly increase the area which can be handled per unit of labour as pointed out above. During the 'thirties the average acreage per farm sown to wheat has remained fairly constant, and during the war years, there was a sharp drop in average individual farm acreage sown to wheat. A number of factors may be regarded as being responsible for the halt in the secular upwards trend in the 'thirties. The price of wheat fell disastrously and hence the incentive to enlarge acreage for the individual farmer disappeared. One result of this unfavourable price was a shift towards "mixed farming" in the wheat belt; many farmers decided to diversify their activities by running sheep for wool production or raising fat lambs on their properties.

TABLE NO. 15.

Average Area Sown to Wheat for Grain, 1935-1936.

Size of Holding.	Total Number of Holdings Growing Wheat.	Average Area per Holding Sown to Wheat for Grain.
Acres.		Acres.
1–30	48	10.5
31–320	1,370	54.6
321–640	3,694	150.7
641–1,280	5,426	243.0
1,281–2,000	2,472	323.1
2,001–3,000	1,448	348.2
3,001–4,000	523	350.9
4,001–5,000	310	370.5
5,001–7,500	340	415.4
7,501–10,000	118	458.9
10,001–15,000	112	548.2
15,001–20,000	26	625.3
20,001–30,000	25	447.6
30,001–40,000	10	1,034.4
40,001–50,000	4	1,195.0
50,001–100,000	6	249.2
100,001 and over	1	250
Total ...	15,923	

As one would expect, there is a definite relationship between size of holding and area sown to wheat. However, the average area sown to wheat (for grain) as shown in the above table increases less rapidly than the total area of the holding. In other words, on the larger holdings, even though a larger average area is sown to wheat than on the smaller holdings, wheat production becomes essentially a sideline to sheep grazing. Also, on the smallest holdings, wheat-growing is essentially a minor form of production, subsidiary to more intensive forms of land use.

From 1920-21 until 1940-41 details of distribution of wheat acreage according to size groups is available. Unfortunately no comparable figures have been compiled for the war years, but only for 1947-48. Five years have been selected for the present study to examine changes in the distribution of areas sown to wheat. The writer hopes to make

a more thorough study of changes in size groups on wheat farms based on distributions for each available year at some time in the future. Concentrating first on the secular trend which seems to be contained in these figures we can see that there has been a tendency for the proportion of the total area sown to wheat in units of less than 200 acres to decline considerably.

TABLE No. 16.

Holdings in Area Size Groups.

Wheat (for Grain) Areas, 1920-21—1940-41.

	1920–1.		1924–5.		1930–1.		1935–6.		1940–1.	
Size of Holding in Acres.	Area '00 Acres.	Per cent.	Area '00 Acres.	Per cent.	Area '00 Acres.	Per cent.	Area '00 Acres.	Per cent.	Area '00 Acres.	Per cent.
1–29 ...	375	1·2	243	0·7	172	0·3	181	0·5	175	0·4
30–49 ...	429	1·4	367	1·0	253	0·5	254	0·7	277	0·6
50–99 ...	1,546	4·9	1,423	4·0	1,119	2·2	1,113	2·9	1,216	2·7
100–199 ...	5,329	17·0	5,997	16·9	4,769	9·3	5,556	14·4	5,124	11·5
200–299 ...	5,977	19·2	7,805	22·0	8,152	15·9	8,517	22·1	8·097	18·2
300–399 ...	4,619	14·7	5,909	16·6	7,932	15·4	7,790	20·2	8,337	18·7
400–499 ...	3,285	10·5	3,928	11·1	6,969	13·6	5,061	13·1	6,272	14·2
500–599 ...	2,287	7·3	2,584	7·3	5,177	10·1	3,085	8·1	3,955	8·9
600–699 ...	1,506	4·8	1,802	5·1	3,922	7·6	2,049	5·3	3,079	6·9
700–799 ...	1,045	3·3	1,295	3·6	2,074	5·4	1,342	3·5	1,738	3·9
800–899 ...	801	2·6	773	2·2	2,747	4·0	891	2·3	1,400	3·1
900–999 ...	535	1·7	800	2·3	1,695	3·3	512	1·3	907	2·0
1,000–1,999 ...	2,180	7·0	1,817	5·1	4,799	9·3	1,812	4·7	3,094	6·9
Over 2,000 ...	1,360	4·3	761	2·1	1,570	3·1	351	0·9	869	2·0
Total ...	31,274	100·0	35,501	100·0	51,350	100·0	38,514	100·0	44,540	100·0

In 1920-21, 24.5 per cent. of the total wheat (for grain) acreage was sown on holdings with less than 200 acres under wheat. By 1940-41 holdings with less than 200 acres under wheat accounted for only 15.2 per cent. of the total wheat acreage and the corresponding figure for 1947-48 was 12.5 per cent. There has also been a decline in the number and proportions of holdings growing less than 200 acres of wheat for grain. In 1920-21, 62.8 per cent. of all holdings growing wheat for grain grew less than 200 acres. By 1940-41 this proportion had fallen to less than 44 per cent. and in 1947-48 only 38.8 per cent. of all holdings growing wheat (for grain) grew less than 200 acres. The proportion of total wheat acreage sown in areas of 200-300 acres does not show any significant long-term trend over the last twenty-five years. But the proportion sown in size groups ranging from 300 to 800 acres has shown a significant increase. In 1920-21, 40.6 per cent. of the total wheat acreage was sown on holdings growing 300-800 acres of wheat (for grain). By 1940-41 this size group accounted for 52.6 per cent. of the total wheat acreage and in 1947-48, the corresponding figure was 56.8 per cent. Only 18.7 per cent. of all holdings growing wheat for grain in 1920-21 grew between 300 and 800 acres. In 1940-41, 32.4 per cent. of all wheat-growing holdings planted 300 to 800 acres. By 1947, the proportion had increased to 37 per cent.

TABLE No. 17.

Number of Holdings.

Wheat (for Grain) Areas, 1920-21—1940-41.

Size of Holding in Acres.	1920–1.		1924–5.		1930–1.		1935–6.		1940–1.	
	Number.	Per cent.	Number.	Per cent.	Number.	Per cent.	Number.	Per cent.	Number.	Per cent.
1–29 ...	2,705	17·2	1,673	10·4	1,195	7·1	1,362	8·6	1,234	7·4
30–49 ...	1,166	7·4	989	6·2	679	4·0	684	4·3	747	4·5
50–99 ...	2,186	14·0	1,979	12·4	1,562	9·2	1,562	9·8	1,724	10·4
100–199 ...	3,771	24·2	4,181	26·0	3,305	19·5	3,851	24·2	3,570	21·6
200–299 ...	2,523	16·2	3,272	20·4	3,385	20·0	3,553	22·3	3,387	20·4
300–399 ...	1,379	8·8	1,769	11·0	2,359	13·9	2,335	14·7	2,500	15·0
400–499 ...	755	4·8	907	5·6	1,600	9·5	1,174	7·4	1,449	8·7
500–599 ...	427	2·7	484	3·0	973	5·7	580	3·6	743	4·4
600–699 ...	239	1·5	286	1·8	619	3·7	325	2·0	488	2·9
700–799 ...	143	0·9	177	1·1	375	2·2	183	1·1	237	1·4
800–899 ...	97	0·6	93	0·6	250	1·5	107	0·7	169	1·0
900–999 ...	58	0·4	86	0·5	182	1·1	55	0·3	97	0·6
1,000–1,999	171	1·1	148	0·9	385	2·3	142	0·9	245	1·5
Over 2,000	38	0·2	23	0·1	55	0·3	10	0·1	30	0·2
Total	15,658	100·0	16,067	100·0	16,924	100·0	15,923	100·0	16,620	100·0

As far as holdings growing more than 800 acres of wheat are concerned, there seems to be a very slow and erratic increase in importance of holdings growing between 800 and 1,000 acres. Holdings growing between 1,000 and 2,000 acres have held their own, but the importance of holdings growing over 2,000 acres has shown a long-term tendency to decline.

Superimposed on this long-term trend for certain size groups to become more important whilst others become less important is a seasonal and cyclical pattern. Judging from the meagre data which has been presented above, during periods of depression when the price of wheat is abnormally low, larger farmers tend to restrict their wheat acreages so that during these years a large proportion of the wheat acreage is sown in smaller size groups than under conditions of prosperity when wheat prices are high. This cyclical pattern probably lags one or two years behind actual changes in wheat prices. In this study where long-term trends in farm size are investigated, a closer examination of this cyclical pattern is not possible.

One further point which should be made in this connection is that, in spite of the increase which has taken place in the average acreage under wheat, per holding, there are still far too many farmers growing wheat in such small areas that they are operating at costs very substantially above the minimum possible with existing equipment and technical knowledge. Although the variety of climatic and soil conditions in New South Wales make it difficult to generalise, it would be true to say that farmers growing less than 400 acres of wheat are unable to derive full benefit from the use of mechanised machinery. Yet 79 per cent. of all holdings growing wheat, planting over 54 per cent. of the total acreage grew less than 400 acres in 1940-41. In 1947-48 the corresponding figures are 75 per cent. and 48 per cent. indicating an improvement but also emphasising the great readjustments which are still necessary. At the present time a farmer can probably make a very reasonable living from 300-400 acres under wheat for grain, but wheat

prices cannot be expected to remain at the current high levels for very long. It is, of course, true that many farms growing wheat for grain also have a certain acreage under oats and many are cultivating more than one holding but even if allowance is made for this factor, it is still true to say that a very substantial proportion of wheat farmers in New South Wales are cultivating areas too small to allow plant to be used to maximum efficiency.

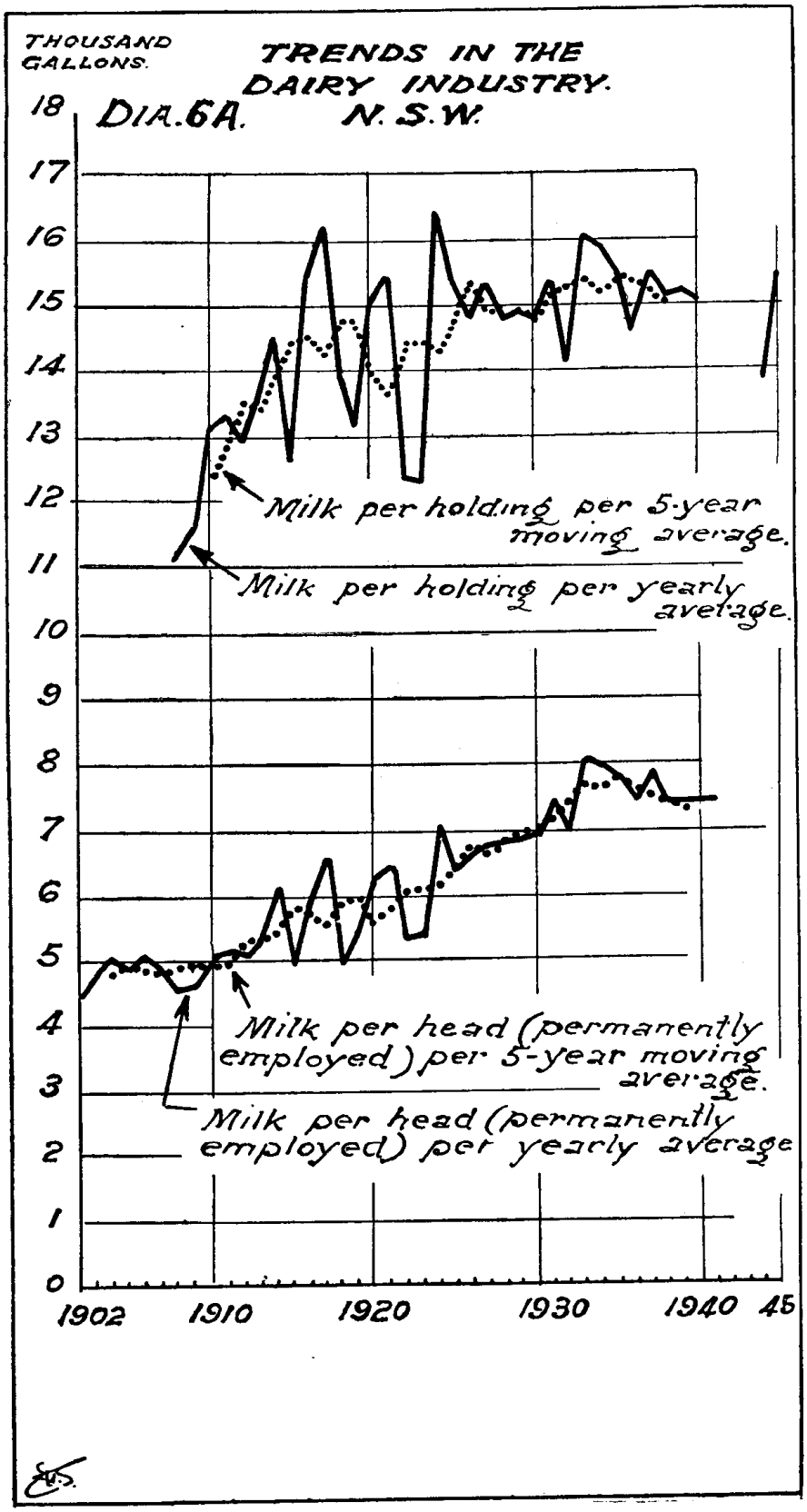
(d) The Dairying Industry.

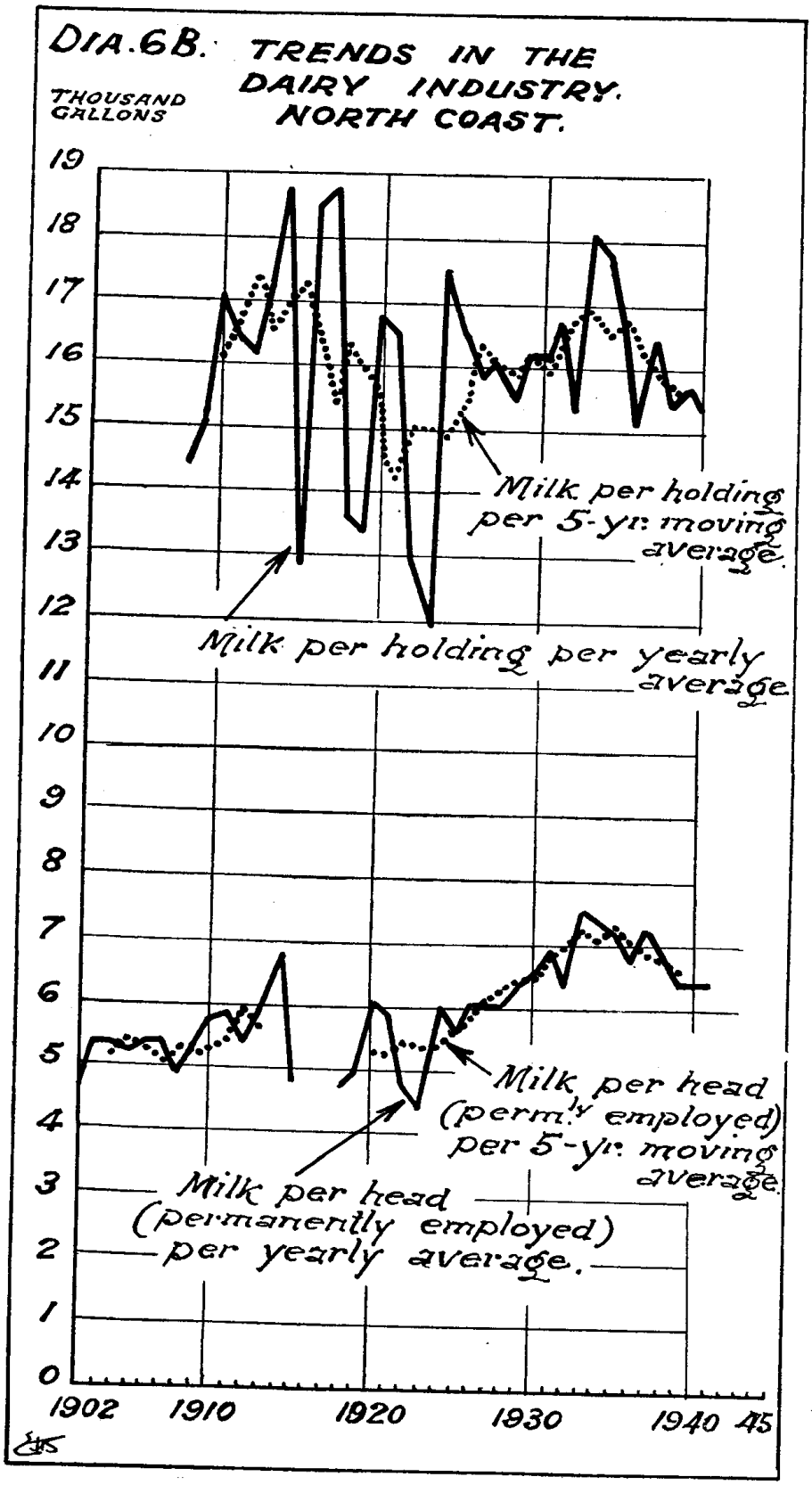
Changes in area size of dairy farms are unfortunately not available, except for divisions where dairying is of great importance but other forms of production in all divisions are of sufficient importance to prevent an analysis of changes in the areas of dairy farms. In addition, the 1926-7 size groups of the Statistician of 100-500 and 500-1,000 acres were not very suitable for examining changes in dairy farm size and more detailed subdivisions into units of 100 acres for farm sizes between 100 and 1,000 acres has only been made in 1947-8.

Figures for distribution of dairy cattle according to size of herd has been collected for the first time in 1941 so that no information is available as to changes in this distribution over a long period. Average number of cows (in milk and dry) per holding for the whole of New South Wales shows no definite long term trend between 1908 and 1940-1. Taking number of cows in milk and dry cows per holding, the average number of dairy cows per holding carrying on dairying increased from 43 in 1908 to 51 in 1917-18. From 1917-18 until 1923-4 the average number of dairy cows per holding fell to 42.5, increasing again to 47 by 1934-5. Between 1934-5 and 1940-1, the average number of cows per dairy farm was between 47 and 48.

Milk production per holding in New South Wales has increased by about 17 per cent. between 1910 and the thirties (taking five year averages). Figures for the 1939-45 war are unfortunately not available.

Milk production per person permanently engaged in the dairying industry has increased by about 56 per cent. This greater increase in production per head is probably to a large extent the result of the introduction of milking machines, which reduces the amount of labour necessary to care and attend to a given number of cows. As the proportion of holdings specialising in dairying has increased greatly, it seems likely that the number of persons primarily engaged in dairying in the earlier period is under-estimated as compared with the thirties. In 1908-10 only 20 per cent. of all holdings practising dairying had no important sidelines (except pigs) whilst in 1937-9 more than two-thirds of all holdings practising dairying in New South Wales specialised in the production of dairy products. The change in the sex composition of the labour force should also be mentioned. In 1900-2, women accounted for 45 per cent. of the total labour force engaged in dairying, by 1938-40, this proportion had fallen to 16 per cent. (In the diagrams giving milk production per head, women are counted as equivalent to men, if a lower rate were used, production per head would have increased to a lesser extent.)


THOUSAND GALLONS.
TRENDS IN THE DAIRY INDUSTRY.
DIA. 6A. N.S.W.
18
17
16
15
14
13
12
11
10
9
8
7
6
5
4
3
2
1
0
Milk per holding per 5-year moving average.
Milk per holding per yearly average.
Milk per head (permanently employed) per 5-year moving average.
Milk per head (permanently employed) per yearly average
1902
1910
1920
1930
1940
45


DIA. 6B. TRENDS IN THE DAIRY INDUSTRY. NORTH COAST.
THOUSAND GALLONS
19
18
17
16
15
14
13
12
11
10
9
8
7
6
5
4
3
2
1
0
1902
1910
1920
1930
1940
45
Milk per holding per 5-yr: moving average.
Milk per holding per yearly average.
Milk per head (perm.ly employed) per 5-yr: moving average.
Milk per head (permanently employed) per yearly average.

Mechanisation in the dairy industry seems to have had the effect of reducing the amount of labour used per farm, especially the amount of female labour. This is what we would expect as female labour is used mainly for milking, which needs much less labour when milking machines are used. A large proportion of the labour force in dairying still consists of unpaid family labour, but the growing tendency to resort to milking machines will probably reduce the amount of unpaid family labour necessary.

The increased production per holding is counter-balanced by the increase in milk production per cow. No accurate figures of milk production per cow for the whole State are available, but if the ratio of total milk production divided by dairy cow population (in milk and dry; excluding heifers, calves and bulls) is taken as an index, production per cow has increased by about 20 per cent. between 1908-12 and 1934-8. The rate of increase in production per cow was greatest during the twenties; since about 1930 there has been little or no improvement in average milk production per cow.

The North Coast Division, which contains about half the dairy cow population, has not shown any long-term increase in milk production per holding (converted from butter and cheese production figures). Between 1910 and 1920, milk production per holding was generally in excess of production per holding in the thirties, although there has been an increase in production per holding from the very low levels of 1919-23. Production per head has increased, but at a slower rate than in other dairying districts in New South Wales; largely due to the fact that milking machines are used less widely in the North Coast Division than in other areas. The fact that milk production per holding has not increased in this area, coupled with a comparatively stationary number of cows per holding, indicates that there has been little or no increase in production per cow in that area over the whole period; in fact since 1933 there seems to have been a decline in production per cow. The North Coast differs from other dairying districts, having largely a sub-tropical climate for which no really satisfactory legume has been found as yet.

VI. CONCLUSION.

Only three rural industries in New South Wales have been discussed separately because data on farm size for the less important industries has not been readily available. In the case of fruit-growing, the limited evidence which has been at the disposal of the writer suggests that there has been an increase of 35-45 per cent. in the average acreage per orchard in the inter-war years.

The argument so far has been confined to stock numbers and areas per holding, little being said about the control of these holdings. There are, of course, many landholders who own or control more than one holding. However, from the point of view of *changes* in farm size only an increase or a decrease in the tendency to control more than one holding would be relevant. No direct evidence is available to show whether or not there has been any tendency towards concentration of control of rural lands. Statements are made from time to time in various quarters that some landholders evade the provisions of the various Crown Land Acts which lay down that certain types of leases and freeholds (discussed above in Section I) can only be transferred

to persons holding less than a home maintenance area or no rural land at all. It has been alleged that "dummies" obtain temporary or permanent titles to rural lands, which are then brought under the effective control of a landholder who is already occupying an area in excess of the home maintenance standard. The writer is not in a position to verify or deny these statements.

During the inter-war period, there has been a moderate but significant increase in the proportion of wage-earners and sharefarmers to total rural working population (permanently employed). In the twenties, 29-30 per cent. of the total rural labour force in New South Wales consisted of wage earners and sharefarmers, rising to 37½-38½ per cent. in the later thirties. (During the worst depression years in the earlier part of the thirties, there was a cyclical decline in the percentage of wage earners and sharefarmers.) The percentage of wage earners (excluding sharefarmers) increased from 26-27 per cent. to 31-32 per cent. of the total rural working population during the same period. This increase is of greater significance than the figures suggest in view of the decline of very large holdings which took place in this twenty-year period. These large holdings would have employed considerably more hired labour than the units into which they were subdivided so that the increase in hired labour on the other rural holdings must have been considerably greater.

This suggests that larger-than-family farms are growing in importance; a trend which will make it more difficult for rural wage earners, sharefarmers and tenants to achieve the status of owner-operator in the future. In some rural industries, one-man units are already too small for most economical working and it seems likely that the most efficient size unit in terms of labour inputs for most rural industries will increase rather than decline in the future. Such a change from family farms to larger than family farms in the future would, of course, have considerable social and political importance as the real and/or imagined interests of farm labourers may be expected to differ from those of owner-operators. The changes in farm size which have been taking place in New South Wales have been comparatively slow so that family farms may for a long time yet constitute the bulk of all rural enterprises, but a definite swing towards larger farms over a longer period of time may be expected.

Lastly, attention should be drawn to another implication of larger farms and that is the decline in the number of farms and farm workers (including owners, sharefarmers and labourers) within a given area. This trend, by reducing the density of labour per unit area, increases the cost of social services, electrification, education and recreational facilities for each member of the rural community. The widespread use of modern transport facilities has made the farmer less dependent on the smaller country towns and has enabled him to travel to larger towns at greater distances from his property in the same time. But if these large country towns are to provide the gradually declining country population with a standard of services and amenities not too glaringly inadequate in comparison with the metropolitan cities, it will be necessary to increase the secondary industries in these towns, so as to provide them with a larger population without which the standard of services and amenities in country towns must inevitably decline.

APPENDIX I.

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APPENDIX II. CHANGES IN FARM SIZE IN NEW SOUTH WALES IN GROUPS OF DIVISIONS.

1. Coastal Divisions.

Approximately 90 per cent. of all dairy cows in New South Wales are in the coastal area. The most important division from the point of view of dairying is the North Coast, which contains almost one-half of all dairy cattle in New South Wales. Grain production in this area is comparatively small (mainly maize, except in the Hunter and Manning Division where some wheat for grain is grown) and has been declining in importance. However, vegetable production has expanded considerably. During the first decade of this century vegetable acreage (excluding potatoes) was about 12,000 acres, increasing to 16,500 in the 'thirties and to over 30,000 at the present time. Fruit acreage has also expanded; on the North Coast over 20,000 acres are planted to bananas; the earliest figures for bananas in 1924 show about 1,500 acres. In the Hunter and Manning Division, citrus acreage has expanded greatly whilst vineyard acreage has declined to a lesser extent. In the Metropolitan Area, the growth of the city of Sydney has reduced

all rural production, especially cereal, fruit and vegetable acreages, but this decline of the two last-named forms of production has been more than counterbalanced by increases in other Divisions in this area.

The intensification of land use arising out of increased fruit, banana and vegetable production and the increase in dairying is no doubt largely responsible for the fact that in the coastal areas farms with less than 100 acres have declined only slowly in relative importance, and for the increase in the number of farms with less than 50 acres between 1926-7 and 1947-8 (figures for holdings in 1911 are not strictly comparable as many holdings were included which only practised farming as a minor sideline).

TABLE No. 1.

Holdings—Total Coastal Division.

Size Group in Acres.	1911.		1926-27.		19474-8.	
	Total Number of Holdings.	Per cent.	Total Number of Holdings.	Per cent.	Total Number of Holdings.	Per cent.
Under 51	23,812	51.63	8,557	26.88	10,747	33.40
51–100	5,150	11.17	4,501	14.14	3,246	10.09
101–500	12,801	27.76	13,771	43.26	13,452	41.81
501–1,000 ...	2,393	5.19	2,656	8.35	2,505	7.79
1,001–3,000 ...	1,500	3.25	1,837	5.77	1,986	6.17
3,001–5,000 ...	210	0.45	263	0.83		
5,001–10,000 ...	133	0.29	167	0.52	162	0.51
10,001–20,000 ...	66	0.14	42	0.13	53	0.16
20,001–50,000 ...	38	0.08	30	0.09	19	0.06
50,001–100,000 ...	12	0.03	6	0.02	4	0.01
Over 100,000 ...	4	0.01	1	0.01	...	...
Total ...	46,119	100.00	31,831	100.00	32,174	100.00

The number of farms with 50-100 acres declined in each of the census years. The number of farms with 100-1,000 acres increased between 1911 and 1926-7, declining slightly in the following twenty years' period. In terms of acreage this group has become more important in each census year. The number of farms with 1,000-10,000 acres increased between 1911 and 1926-7, declining slightly during the next twenty years. The relative importance of farms in this group (measured in terms of the proportion of total rural land area which they occupy) has increased during the whole period. The number of farms and the area held in units of more than 20,000 acres had declined continuously and this decline, not being counterbalanced by an equal decline in the importance of the smallest farms, has led to a reduction in the average acreage per holding in this area since 1929-30. In other areas (except the Western Division) the average acreage has increased because the decline in smaller farms exerted a greater influence on the average than the decline of the very large farms.

TABLE NO. 2.
Area—Total Coastal Division.

Size Groups in Acres.	1911.		1926–27.		1947–48.	
	Total Area in Acres.	Per cent.	Total Area in Acres.	Per cent.	Total Area in Acres.	Per cent.
Under 51	299,915	2·28	180,646	1·39	158,953	1·37
51–100	406,860	3·10	352,274	2·70	238,139	2·06
101–500	2,975,499	22·67	3,248,379	24·93	3,111,103	26·87
501–1,000	1,672,045	12·74	1,843,292	14·15	1,710,690	14·77
1,001–3,000	2,367,963	18·04	2,909,733	22·33	3,808,476	32·89
3,001–5,000	811,538	6·18	1,013,516	7·78		
5,001–10,000	930,806	7·09	1,128,974	8·67	1,074,422	9·28
10,001–20,000	914,718	6·97	576,036	4·42	702,742	6·07
20,001–50,000	1,063,424	8·10	918,051	7·05	530,760	4·58
50,001–100,000	828,451	6·31	398,048	3·05	243,527	2·11
Over 100,000	856,349	6·52	459,934	3·53	.....	.....
Total	13,127,568	100·00	13,028,883	100·00	11,578,812	100·00

One further point which should be noticed is that the total acreage used for pastoral, agricultural and dairying purposes in the coastal area has declined by almost 1,500,000 acres between 1926-7 and 1947-8. This decline was not caused to any great extent by the increasing area devoted to residential purposes, but must be found in some other reason. It may be the result of abandonment of rugged hill country which had been occupied at first but was found unsuitable for grazing purposes.

2. Tableland Divisions.

This area is utilised mainly for sheep and cattle grazing, but other forms of land use such as fruit and vegetable growing, lucerne hay production are also of importance. Cereal production is of minor importance except in the Central Tablelands where wheat and oats acreage has increased in recent years. In the Central Tablelands non-citrus fruits and vegetable acreages have also increased greatly during the last 40 years; potato acreage, on the other hand, is less than one-third of the 1900/5 average. Dairying is also of importance in some areas and a large increase in green food acreage has also taken place.

TABLE NO. 3.
Holdings—Tablelands.

Size Group in Acres.	1911.		1926–7.		1947–8.	
	Total Number of Holdings.	Per cent.	Total Number of Holdings.	Per cent.	Total Number of Holdings.	Per cent.
Under 51	6,855	33.94	2,524	16.01	1,415	10.43
51–100	1,471	7.28	1,314	8.33	911	6.72
101–500	5,201	25.75	4,350	27.59	3,297	24.31
501–1,000	2,649	13.12	2,623	16.64	2,410	17.77
1,001–3,000 ...	2,865	14.19	3,557	22.56	4,833	35.63
3,001–5,000 ...	495	2.45	715	4.53		
5,001–10,000 ...	340	1.68	417	2.64	515	3.80
10,001–20,000 ...	182	0.90	185	1.18	145	1.07
20,001–50,000 ...	114	0.56	73	0.46	33	0.24
50,001–100,000 ...	17	0.08	8	0.05	4	0.03
Over 100,000 ...	9	0.05	1	0.01	...	...
Total ...	20,198	100.00	15,767	100.00	13,561	100.00

There has also been some shift from wool to fat lamb production in this area, but no figures are available to judge the extent of this shift.

The number of holdings in this area has declined greatly. 1911 figures are not strictly comparable, but even if 3,000 out of the 6,855 holdings with less than 50 acres were used mainly for residential purposes there was still a decline of about 3,500 rural holdings during this period. The decline in the number of holdings was greatest for the very small and for the very large holdings, whilst the number of holdings with areas between 1,000 and 10,000 acres increased slightly.

A similar tendency is noticeable when examining the proportion of total acreage held in various size groups. In 1911, 17 per cent. of all land used for pastoral, agricultural and dairying purposes was held in holdings of less than 1,000 acres. In 1947-48 only 14 per cent. of all land was held in such holdings. Farms with 1,000-10,000 acres increased greatly in relative importance, occupying 43.21 per cent. of the total area in 1911 and 70.36 per cent. in 1947-48. Farms with more than 10,000 acres became less important; by 1947-48, there were no holdings left with more than 100,000 acres; whilst in 1911 they accounted for over 6 per cent. of the total area. Holdings with more than 10,000 acres occupied about 40 per cent. of the total area in 1911, compared with 15½ per cent. in 1947-48.

In terms of average area, the increase in farm size between 1914-15, when average farm size, measured in acres, was at its lowest, and 1946-47, was more than 45 per cent. Farms in the Central Tablelands were considerably smaller than farms in either the Northern or Southern Tablelands, and there was a larger proportion of holdings with less than 500 acres, but the same trend operated in this Division as in the other two Divisions which constitute the Tablelands of New South Wales.

TABLE No. 4.

Area—Tablelands.

Size Groups in Acres.	1911.		1926–7.		1947–8.	
	Total Area in Acres.	Per cent.	Total Area in Acres.	Per cent.	Total Area in Acres.	Per cent.
Under 51 ...	96,445	0.46	61,627	0.31	33,890	0.17
51–100... ...	114,512	0.55	99,474	0.49	64,964	0.33
101–500 ...	1,406,870	6.77	1,183,887	5.89	899,309	4.61
501–1,000 ...	1,916,010	9.22	1,916,651	9.53	1,750,514	8.98
1,001–3,000 ...	4,690,795	22.56	6,114,148	30.40	10,260,668	52.63
3,001–5,000 ...	1,863,546	8.96	2,723,130	13.54		
5,001–10,000 ...	2,429,769	11.69	2,898,921	14.41	3,455,363	17.73
10,001–20,000	2,545,907	12.24	2,522,827	12.54	1,923,309	9.86
20,001–50,000	3,317,298	15.95	1,996,764	9.93	882,558	4.53
50,001–100,000	1,132,758	5.45	485,817	2.41	226,552	1.16
Over 100,000 ...	1,278,611	6.15	111,334	0.55	...	...
Total ...	20,792,521	100.00	20,114,220	100.00	19,497,127	100.00

3. Western Slopes.

It is difficult to trace changes in land use in this area prior to 1923, because the boundaries of the Divisions in this area, especially the boundaries of the Central Western Slopes Division, have changed very greatly.

All three Divisions in this area have large acreages under wheat for grain and hay, and account for 50-60 per cent. of the total State wheat acreage normally. Wheat production and acreage in New South Wales as a whole, and in this area, has increased very greatly between 1900 and 1930. The South Western Division usually accounts for 20-25 per cent. of the New South Wales wheat acreage; the Central Western Division for slightly less; whilst the wheat acreage in the North Western Slopes Division is normally about 3/5ths of the acreage in either of the other two Divisions.

Wheatgrowing in this area is usually associated with sheep grazing; there are also many properties which do not grow wheat but carry on wool production or fat lamb raising only. Beef cattle production is also of some importance in the Northern and Southern Divisions. Dairying is of little importance except in the South Western Slopes Division. Vegetable production in this Division has also increased in recent years, but is of little importance in the other two Divisions. Fruit acreage has remained fairly stationary over the last twenty years; but lucerne hay production increased in the inter-war period; declining during the 'forties.

TABLE No. 5.

Holdings—Total, Western Slopes.

Size Group in Acres.	1926-7.		1947-8.	
	Total No. Holdings.	Per cent.	Total No. Holdings.	Per cent.
Under 51 ...	1,970	11.43	1,401	8.67
51-100	93	5.40	672	4.16
101-500	3,920	22.74	3,006	18.60
500-1,001 ...	4,321	25.07	3,932	24.33
1,001-3,000 ...	4,307	24.99	6,362	39.36
3,001-5,000 ...	932	5.41		
5,001-20,000 ...	168	0.97	169	1.04
20,001-50,000 ...	69	0.40	45	0.28
50,001-100,000 ...	5	0.03	3	0.02
Over 100,000 ...	2	0.01	...	...
Total ...	17,235	100.00	16,163	100.00

Between 1924-5 and 1946-7 "average acreage per holding" increased by approximately 9 per cent. in spite of a shift from pure grazing to wheat and sheep production which would tend to reduce farm size. Between 1926-7 and 1947-8 the acreage used for pastoral, agricultural and dairying purposes increased slightly, but the number of holdings declined by more than 1,000. The largest decline was in the smallest group of holdings (occupying 50 acres or less), but holdings in all sizes except the 1,000-5,000 group, declined. In terms of relative importance

of the various groups, the same trend has taken place. In 1926-7. 44.82 per cent. of all land was held in farms between 1,000 and 5,000 acres. By 1947-8, this proportion had increased to 53.41 per cent. whilst the importance of both larger and smaller farms declined. Figures for 1911 are unfortunately not available for comparison because the changes in divisional boundaries in 1923 make it impossible to compare size distribution prior to 1923 with succeeding years.

TABLE No. 6.

Area—Western Slopes.

Size Group in Acres.	1926.		1947–8.	
	Total Area in Acres.	Per cent.	Total Area in Acres.	Per cent.
Under 51 ...	49,002	0.20	30,250	0.12
51–100	69,719	0.29	45.528	0.20
101–500	1,206,115	4.96	873.540	3.59
501–1,000 ...	3,133,127	12.89	2,896,565	11.89
1,001–3,000 ...	7,382,309	30.37	13,013,528	53.41
3,001–5,000 ...	3,512,309	14.45		
5,001–10,000 ...	4,144,105	17.05	3,782,219	15.52
10,001–20,000 ...	2,278,723	9.38	2,239,897	9.19
20,001–50,000 ...	1,889,055	7.77	1,281,379	5.26
50,001–100,000 ...	396,204	1.63	200,149	0.82
Over 100,000 ...	244,581	1.01	...	...
Total ...	23,305,022	100.00	24,366,055	100.00

4. Central Plains and Riverina.

This area is much less homogeneous than the others discussed and whilst size distributions are here given for the whole area, the distribution of farms in the various size groups for the individual Divisions is given in Appendix III, together with figures for the other Divisions.

Although wheat acreages in all three Divisions have increased considerably during the period under consideration, wheat production in the Riverina is of much greater importance than in the other two Divisions. The most important form of rural activity in the two Central Plains Division is sheep grazing, with cattle as a sideline on many properties.

In the Riverina on the other hand, besides wheat and sheep, more intensive forms of land use such as fruit and vegetable production, fat lambs and rice are of great importance. As a result of the establishment of the Murrumbidgee Irrigation Area, acreage under grapes (dried and table) increased from 1,500 acres in the first decade of this century to about 8,000 for the decade 1935-45. Citrus acreage increased from less than fifty to over 7,000 in the same period. Other fruits increased from about 500 acres to approximately 8,500, whilst vegetable acreage jumped from 100-200 acres to 37,000 acres in 1946. Farming operations in the Murrumbidgee Irrigation Area commenced in 1912-13.

In spite of this intensification of land use in the M.I.A. the average area per holding in the Riverina Division has increased steadily since 1924-5. For the area as a whole average, farm size increased by 10 per cent. in the sixteen years prior to 1946-7.

TABLE No. 7.

Holdings—Total, Central Plains and Riverina Divisions.

Size Group in Acres.	1926–7.		1947–8.	
	Total No. of Holdings.	Per cent.	Total No. of Holdings.	Per cent.
Under 51 ...	1,571	13.30	1,089	10.12
51–100	326	2.76	440	4.09
101–500	1,751	14.82	977	9.08
501–1,000 ...	2,248	19.02	2,186	20.32
1,001–3,000 ...	3,127	26.47	4,130	38.39
3,001–5,000 ...	1,101	9.31		
5,001–10,000 ...	1,068	9.04	1,196	11.11
10,001–20,000 ...	346	2.93	499	4.64
20,001–50,000 ...	200	1.69	178	1.65
50,001–100,000 ...	59	0.50	49	0.46
Over 100,000 ...	18	0.15	15	0.14
Total ...	11,815	100.00	10,759	100.00

The number of holdings in each Division declined during the last twenty-one years; for the area as a whole totalling more than 1,000 holdings between 1926-7 and 1947-8. In the Northern and Central Divisions the number of holdings with areas of less than 1,000 acres and more than 20,000 acres declined; holdings with 1,000-20,000 acres increasing in the N.C. Plain, whilst in the Central Plains Division only the number of holdings with 5,000-20,000 acres increased; the number of holdings with 1,000-5,000 acres declining, but not as much proportionately as the decline in the other size groups.

In terms of acreage, the only size group which increased in relative importance for the whole area was from 5,000 to 20,000 acres, which contained 39 per cent. of all land in 1947-8 but only 32 per cent. in 1926-7. For the different Divisions there are significant variations. In the North Central Plains Division holdings with 1,000-20,000 acres occupied about 70 per cent. of all land in 1926-7 compared with 78.4 per cent. in 1947-8. The relative importance of all other size groups declined.

TABLE No. 8.

Area—Total, Central Plains and Riverina.

Size Group in Acres.	1926–7.		1947–8.	
	in Acres.	Total Area Per cent.	Total Area in Acres.	Total Area Per cent.
Under 51 ...	36,922	0.10	26,660	0.07
51–100 ...	23,836	0.06	28,190	0.08
101–500 ...	537,799	1.44	315,037	0.84
501–1,000	1,622,021	4.35	1,555,975	4.14
1,001–3,000	5,665,001	15'19		
3,001–5,000	4,350,766	11.67	9,956,850	26.51
5,001–10,000	7,175,816	19.24	8,090,978	21.54
10,001–20,000	4,825,824	12.94	6,668,391	17.75
20,001–50,000	6,061,907	16.25	5,219,468	13.90
50,001–100,000	4,005,277	10.73	3,418,147	9.10
Over 100,000	2,988,251	8.03	2,282,433	6.07
Total ...	37,293,420	100.00	37,562,130	100.00

In the Central Plains Division the 5,000-20,000 acre size groups accounted for 41.2 per cent. of the total area in 1926-7 and for 53.9 per cent. in 1947-8; all other size groups declining in relative importance. The average acreage per farm in the 1,000-5,000 acre group in both cases has also increased.

In the Riverina, the number of holdings with 50-100 acres, 500-1,000 acres and 5,000 to 20,000 acres have all increased, the numbers of holdings in the other size groups has decreased even more, so that there were about 800 holdings less in 1947-8 than in 1926-7. In terms of acreage, there was only a slight increase in the proportion of land held in the 50-100 acre group, with larger increases in the relative importance of the 500-1,000 and the 5,000-20,000 acre group.

5. Western Division.

With the exception of a small amount of irrigated land (approximately 4,000 acres) at Wentworth, grazing (mainly merino sheep) is the predominant form of land use. The total cultivated acreage excluding irrigation, is less than 10,000; up to 7,500 acres being under wheat (for grain).

TABLE No. 9.

Holdings—Western Division.

Size Group in Acres.	1911.		1926–7.		1947–8.	
	Total No. of Holdings.	Per cent.	Total No. of Holdings.	Per cent.	Total No. of Holdings	Per cent.
Under 51 ...	842	39.98	302	17.44	426	21.17
51–100 ...	61	2.90	28	1.62	44	2.19
101–500 ...	131	6.22	70	4.04	41	2.04
501–1,000	98	4.65	59	3.41	30	1.49
1,001–3,000	105	4.99	75	4.33		
3,001–5,000	49	2.33	40	2.31	109	5.42
5,001–10,000	104	4.94	104	6.00	94	4.67
10,001–20,000	197	9.35	279	16.11	269	13.37
20,001–50,000	222	10.54	411	23.73	547	27.19
50,001–100,000	98	4.65	169	9.76	286	14.21
Over 100,000	199	9.45	195	11.25	166	8.25
Total ...	2,106	100.00	1,732	100.00	2,012	100.00

Practically all land in the Western District is held under long-term Western Lands Leases, and most of the remainder is held in Permissive Occupancies or Preferential Occupation Licenses. As a result, the size distribution of properties in this Division are largely determined by government policy. As a result of the very low rainfall and carrying capacity of the land, areas have to be very large to enable the land-holder to obtain a reasonable income. Large holdings with over 100,000 acres have been subdivided, but in 1947-8, 44 per cent. of all land was still held in units of 100,000 acres or more.

Apparently in most parts of the Western Division, 20,000 acres is the minimum size, the proportion of land held in units of 20,000 acres or more having increased from 85 per cent. to 93.5 per cent. between 1911 and 1947-8.

The number of holdings at the other end of the scale, with less than 100 acres has increased between 1926-7 and 1927-8 but a very large proportion of these are in the Curlwaa and Coomealla irrigation areas.

TABLE NO. 10.

Area—Western Division.

Size Groups in Acres.	1911.		1926–7.		1947–8.	
	Total Area in Acres.	Per cent.	Total Area in Acres.	Per cent.	Total Area in Acres.	Per cent.
Under 51 ...	6,778	0.01	5,306	0.01	7,721	0.01
51–100 ...	5,151	0.01	2,177	...	2,906	0.003
101–500 ...	33,700	0.04	17,822	0.02	10,198	0.01
501–1,000 ...	66,787	0.09	40,083	0.05	20,410	0.03
1,001–3,000 ...	181,125	0.23	124,198	0.16	283,343	0.37
3,001–5,000 ...	195,901	0.25	163,292	0.21		
5,001–10,000 ...	772,925	1.00	812,892	1.04	692,752	0.91
10,001–20,000	2,558,995	3.31	3,904,245	5.00	3,867,897	5.08
20,001–50,000	6,560,418	8.48	12,824,870	16.43	18,075,885	23.72
50,001–100,000	6,863,996	8.87	11,419,984	14.62	19,748,965	25.92
Over 100,000 ...	60,100,390	77.71	48,781,308	62.46	33,484,434	43.95
Total ...	73,346,166	100.00	78,096,177	100.00	76,194,511	100.00

Appendix III.

Tables showing changes in Farm Acreage in various districts of New South Wales, 1926-7 and 1947-48.

Size in Acres.	1926–27.		1947–48.	
Holdings—North Coast—	Number.	Per cent.	Number.	Per cent.
Under 51	1,351	11.55	2,576	20.69
51–100	1,940	16.59	1,441	11.58
101–500	6,738	57.62	6,932	55.68
501–1,000	894	7.65	799	6.42
1,001–3,000	642	5.49	610	4.90
3,001–5,000	67	0.57		
5,001–10,000	36	0.31	55	0.44
10,001–20,000	9	0.08	25	0.20
20,001–50,000	11	0.10	8	0.06
50,001–100,000	5	0.04	3	0.03
Over 100,000	.....	.....	.....	.....
Total	11,693	100.00	12,449	100.00
Area—North Coast—	Area in Acres.		Area in Acres.	
Under 51	39,442	0.85	42,984	0.97
51–100	157,073	3.38	109,112	2.46
101–500	1,499,308	32.24	1,502,854	33.93
501–1,000	617,216	13.28	538,588	12.16
1,001–3,000	1,008,650	21.69	1,142,991	25.81
3,001–5,000	257,251	5.53		
5,001–10,000	241,409	5.19	364,848	8.24
10,001–20,000	117,256	2.52	317,880	7.18
20,001–50,000	369,446	7.94	229,583	5.18
50,001–100,000	343,231	7.38	180,094	4.07
Over 100,000	.....	.....	.....	.....
Total	4,650,282	100.00	4,428,934	100.00
Holdings—Hunter and Manning—	Number.		Number.	
Under 51	2,822	26.86	2,055	22.81
51–100	1,408	13.40	962	10.68
101–500	4,154	39.54	3,816	42.35
501–1,000	1,087	10.35	1,131	12.55
1,001–3,000	775	7.38	938	10.41
3,001–5,000	134	1.28		
5,001–10,000	90	0.86	79	0.88
10,001–20,000	23	0.22	21	0.23
20,001–50,000	11	0.10	7	0.08
50,001–100,000	.....	.....	1	0.01
Over 100,000	1	0.01	.....	.....
Total	10,505	100.00	9,010	100.00

APPENDIX—*continued.*

Size in Acres.	1926–27.		1947–48.	
AREA—HUNTER AND MANNING—	Area in Acres.	Per cent.	Area in Acres.	Per cent.
Under 51	65,620	1.20	44,995	0.95
51–100	107,230	1.95	68,921	1.45
101–500	1,048,567	19.10	966,453	20.38
501–1,000	757,680	13.80	779,214	16.43
1,001–3,000	1,244,778	22.68	1,817,019	38.31
3,001–5,000	522,969	9.53		
5,001–10,000	612,767	11.16	529,507	11.17
10,001–20,000	325,392	5.93	283,324	5.97
20,001–50,000	344,276	6.27	189,644	4.00
50,001–100,000	.....	.....	63,433	1.34
Over 100,000	459,934	8.38	.....	.....
Total	5,489,213	100.00	4,742,510	100.00
HOLDINGS—METROPOLITAN AREA—	Number.		Number.	
Under 51	3,513	77.36	5,437	85.60
51–100	504	11.10	420	6.61
101–500	424	9.34	396	6.23
500–1,000	49	1.08	51	0.80
1,001–3,000	44	0.97	46	0.72
3,001–5,000	4	0.09		
5,001–10,000	3	0.06	2	0.04
10,001–20,000	.....	.....	.....	.....
20,001–50,000	.....	.....	.....	.....
50,001–100,000	.....	.....	.....	.....
Over 100,000	.....	.....	.....	.....
Total	4,541	100.00	6,352	100.00
AREA—METROPOLITAN AREA—	Area in Acres.		Area in Acres.	
Under 51	54,370	17.10	56,757	19.80
51–100	37,061	11.66	29,152	10.17
101–500	88,464	27.83	74,421	25.86
501–1,000	33,811	10.64	34,765	12.13
1,001–3,000	68,866	21.67	80,744	28.17
3,001–5,000	17,399	5.47		
5,001–10,000	17,887	5.63	10,792	3.77
10,001–20,000	.....	.....	.....	.....
20,001–50,000	.....	.....	.....	.....
50,001–100,000	.....	.....	.....	.....
Over 100,000	.....	.....	.....	.....
Total	317,858	100.00	286,631	100.00
HOLDINGS—SOUTH COAST—	Number.		Number.	
Under 51	871	17.11	679	15.56
51–100	649	12.75	423	9.70
101–500	2,455	48.21	2,308	52.90
500–1,000	626	12.29	524	12.01
1,001–3,000	376	7.38	392	8.98
3,001–5,000	58	1.14		
5,001–10,000	38	0.75	26	0.60
10,001–20,000	10	0.20	7	0.16
20,001–50,000	8	0.15	4	0.09
50,001–100,000	1	0.02	...	.....
Over 100,000	.....	.....	...	.....
Total	5,092	100.00	4,363	100.00

APPENDIX—*continued.*

Size in Acres.	1926–27.		1947–48.	
AREA—SOUTH COAST—	Area in Acres.	Per cent.	Area in Acres.	Per cent.
Under 51	21,214	0.82	14,217	0.67
51–100	50,910	1.98	30,954	1.46
101–500	612,040	23.80	567,375	26.77
501–1,000	434,585	16.90	357,523	16.86
1,001–3,000	587,439	22.84	767,722	36.21
3,001–5,000	215,897	8.40		
5,001–10,000	256,911	9.99	169,275	7.98
10,001–20,000	133,388	5.19	101,538	4.79
20,001–50,000	204,329	7.95	111,533	5.26
50,001–100,000	54,817	2.13	.....	.....
Over 100,000	.....	.....	.....	.....
Total	2,571,530	100.00	2,120,137	100.00
HOLDINGS—NORTHERN TABLELANDS—	Number.		Number.	
Under 51	489	12.44	227	6.50
51–100	262	6.66	206	5.90
101–500	928	23.61	793	22.72
501–1,000	624	15.87	564	16.16
1,001–3,000	1,159	29.48	1,437	41.16
3,001–5,000	239	6.08		
5,001–10,000	138	3.51	187	5.36
10,001–20,000	62	1.58	57	1.63
20,001–50,000	25	0.64	17	0.49
50,001–100,000	5	0.13	3	0.08
Over 100,000	.....	.....	.....	.....
Total	3,931	100.00	3,491	100.00
AREA—NORTHERN TABLELANDS—	Area in Acres.		Area in Acres.	
Under 51	11,096	0.17	5,312	0.08
51–100	19,784	0.30	14,685	0.23
101–500	253,887	3.89	216,361	3.36
501–1,000	458,665	7.03	411,229	6.38
1,001–3,000	2,026,848	31.09	3,144,993	48.82
3,001–5,000	906,786	13.90		
5,001–10,000	959,252	14.71	1,276,169	19.81
10,001–20,000	844,853	12.95	761,703	11.83
20,001–50,000	725,850	11.13	436,119	6.77
50,001–100,000	315,201	4.83	174,822	2.72
Over 100,000	.....	.....	.....	.....
Total	6,522,222	100.00	6,441,393	100.00
HOLDINGS—CENTRAL TABLELAND—	Number.		Number.	
Under 51	1,687	20.36	1,005	14.40
51–100	845	10.20	588	8.42
101–500	2,517	30.38	1,856	26.59
501–1,000	1,289	15.56	1,247	17.86
1,001–3,000	1,464	17.67	2,078	29.77
3,001–5,000	262	3.16		
5,001–10,000	145	1.75	155	2.22
10,001–20,000	56	0.67	39	0.56
20,001–50,000	20	0.24	12	0.17
50,001–100,000	.....	.....	1	0.01
Over 100,000	1	0.01	.....	.....
Total	8,286	100.00	6,981	100.00

APPENDIX—*continued.*

Size in Acres.	1926–27.		1947–48.	
	Area in Acres.	Per cent.	Area in Acres.	Per cent.
AREA—CENTRAL TABLELAND—				
Under 51	41,290	0.54	24,142	0.32
51–100	63,878	0.84	42,058	0.55
101–500	671,590	8.81	493,650	6.46
501–1,000	928,622	12.17	904,341	11.84
1,001–3,000	2,495,735	32.72	4,279,129	56.03
3,001–5,000	996,929	13.07		
5,001–10,000	1,000,458	13.11	1,028,271	13.46
10,001–20,000	751,296	9.85	499,111	6.53
20,001–50,000	567,538	7.43	315,312	4.13
50,001–100,000	.....	.....	51,730	0.68
Over 100,000	111,334	1.46	.....	.....
Total	7,628,670	100.00	7,637,744	100.00
HOLDINGS—SOUTHERN TABLELAND—	Number.		Number.	
Under 51	348	9.80	183	5.92
51–100	207	5.83	117	3.79
101–500	905	25.49	648	20.98
501–1,000	710	20.00	599	19.39
1,001–3,000	934	26.31	1,316	42.60
3,001–5,000	214	6.03		
5,001–10,000	134	3.77	173	5.60
10,001–20,000	67	1.89	49	1.59
20,001–50,000	28	0.79	4	0.13
50,001–100,000	3	0.09	.....	.....
Over 100,000	.....	.....	.....	.....
Total	3,550	100.00	3,089	100.00
AREA—SOUTHERN TABLELAND—	Area in Acres.		Area in Acres.	
Under 51	8,881	0.15	4,436	0.08
51–100	15,812	0.27	8,221	0.15
101–500	258,410	4.33	189,298	3.49
501–1,000	529,364	8.88	434,944	8.03
1,001–3,000	1,591,565	26.69	2,836,546	52.35
3,001–5,000	819,415	13.74		
5,001–10,000	939,211	15.75	1,150,923	21.24
10,001–20,000	926,678	15.54	662,495	12.23
20,001–50,000	703,376	11.79	131,127	2.42
50,001–100,000	170,616	2.86	.....	.....
Over 100,000	.....	.....	.....	.....
Total	5,963,328	100.00	5,417,990	100.00
HOLDINGS—NORTH WESTERN SLOPE—	Number.		Number.	
Under 51	411	9.22	345	8.19
51–100	225	5.05	164	3.89
101–500	1,192	26.73	851	20.21
501–1,000	829	18.59	800	18.99
1,001–3,000	1,102	24.71	1,693	40.20
3,001–5,000	371	8.32		
5,001–10,000	231	5.18	257	6.10
10,001–20,000	64	1.44	80	1.90
20,001–50,000	31	0.70	20	0.47
50,001–100,000	1	0.02	2	0.05
Over 100,000	2	0.04	.....	.....
Total	4,459	100.00	4,212	100.00

APPENDIX—*continued.*

Size in Acres.	1926–27.		1947–48.	
AREA—NORTH-WESTERN SLOPES—	Area in Acres.	Per cent.	Area in Acres.	Per cent.
Under 51	10,847	0.13	7,184	0.09
51–100	17,264	0.22	11,463	0.14
101–500	362,574	4.46	252,773	3.09
501–1,000	594,254	7.31	580,714	7.10
1,001–3,000	2,000,272	24.60	3,894,792	47.65
3,001–5,000	1,436,330	17.66		
5,001–10,000	1,601,027	19.69	1,703,550	20.84
10,001–20,000	871,156	10.71	1,076,428	13.17
20,001–50,000	895,499	11.01	518.962	6.35
50,001–100,000	97,300	1.20	128,384	1.57
Over 100,000	244,581	3.01	.....	.....
Total	8,131,104	100.00	8,174,250	100.00
HOLDINGS—CENTRAL WESTERN SLOPES—	Number.		Number.	
Under 51	345	7.54	287	6.69
51–100	144	3.15	117	2.73
101–500	891	19.48	546	12.74
501–1,000	1,325	28.97	1,114	25.99
1,001–3,000	1,397	30.54	2,033	47.42
3,001–5,000	239	5.23		
5,001–10,000	177	3.87	146	3.41
10,001–20,000	41	0.90	31	0.72
20,001–50,000	14	0.30	13	0.30
50,001–100,000	1	0.02	.....	.....
Over 100,000	.....	.....	.....	.....
Total	4,574	100 00	4,287	100·00
AREA—CENTRAL WESTERN SLOPES—	Area in Acres.		Area in Acres.	
Under 51	7,939	0.12	6,129	0.09
51–100	10,987	0.16	8,381	0.12
101–500	278,802	4.14	164,285	2.40
501–1,000	967,275	14.36	844,339	12.34
1,001–3,000	2,414,151	35.85	4,103,549	59.95
3,001–5,000	925,971	13.75		
5,001–10,000	1,136,802	16.88	921,216	13.46
10,001–20,000	531,835	7.90	393,621	5.75
20,001–50,000	394,477	5.86	403,114	5.89
50,001–100,000	66,318	0.98	.....	.....
Over 100,000	.....	.....	.....	.....
Total	6,734,557	100.00	6,844,634	100.00
HOLDINGS—SOUTH-WESTERN SLOPES—	Number.		Number.	
Under 51	1,214	14.80	769	10.03
51–100	562	6.85	391	5.10
101–500	1,837	22.40	1,609	20.99
501–1,000	2,167	26.42	2,018	26.33
1,001–2,000	1,808	22.04	2,636	34.39
3,001–5,000	322	3.93		
5,001–10,000	202	2.46	170	2.22
10,001–20,000	63	0.77	58	0.76
20,001–50,000	24	0.29	12	0.16
50,001–100,000	3	0.04	1	0.02
Over 100,000	.....	.....	.....	.....
Total	8,202	100.00	7,664	100.00

APPENDIX—*continued.*

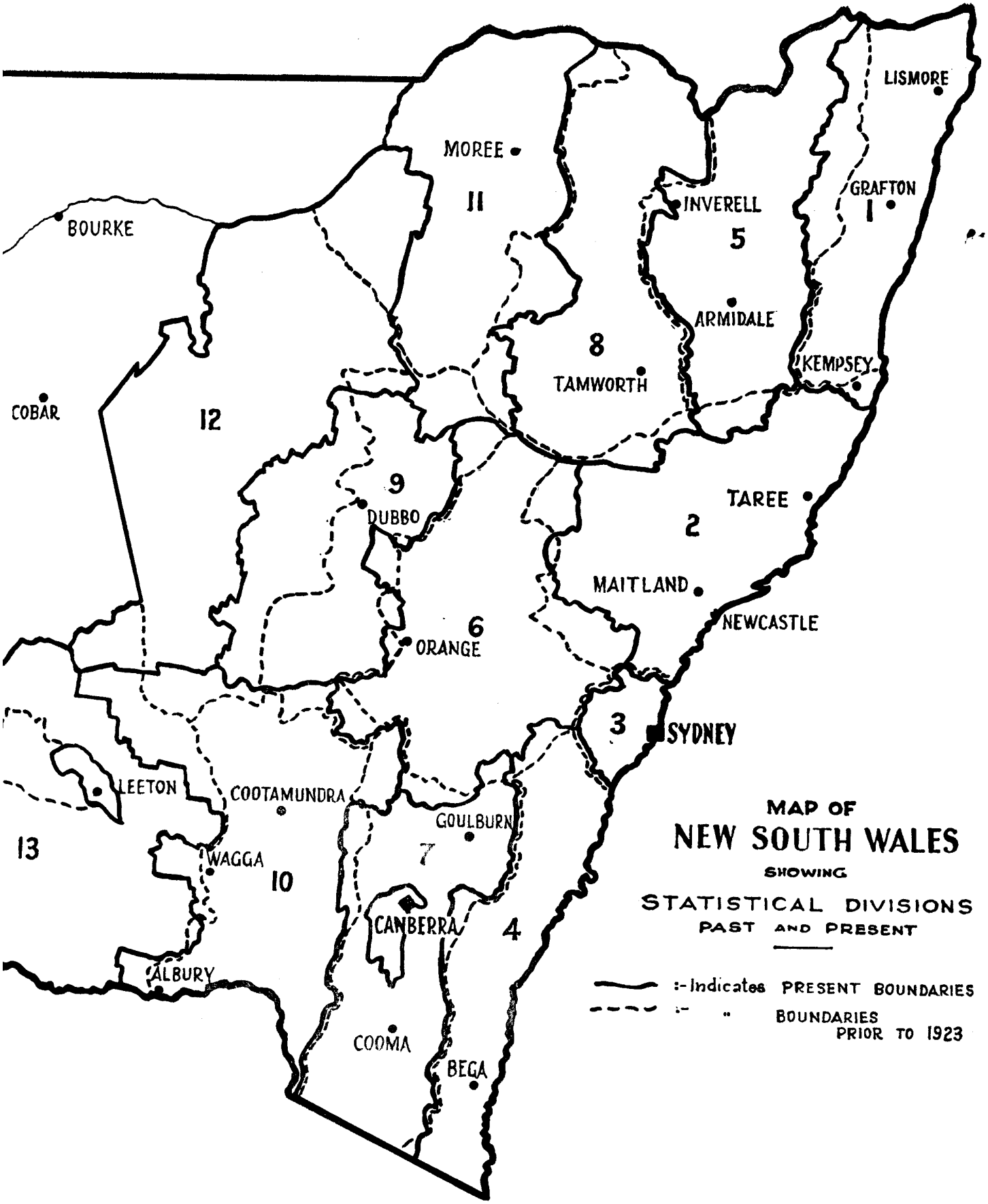
Size in Acres.	1926–27.		1947–48.	
AREA—SOUTH-WESTERN SLOPES—	Area in Acres.	Per cent.	Area in Acres.	Per cent.
Under 51	30,216	0.32	16,937	0.18
51–100	41,468	0.44	28,684	0.31
101–500	564,739	5.98	456,482	4.88
501–1,000	1,571,598	16.65	1,471,512	15.74
1,001–3,000	2,967,886	31.44	5,015,187	53.65
3,001–5,000	1,149,781	12.18		
5,001–10,000	1,406,276	14.90	1,157,453	12.39
10,001–20,000	875,732	9.28	769,848	8.24
20,001–50,000	599,079	6.35	359,303	3.84
50,001–100,000	232,586	2.46	71,765	0.77
Over 100,000	.....	.....	.....	.....
Total	9,439,361	100.00	9,347,171	100.00
HOLDINGS—NORTH CENTRAL PLAIN—	Number.		Number.	
Under 51	109	5.59	74	3.92
51–100	31	1.59	29	1.54
101–500	230	11.79	123	6.52
501–1,000	279	14.31	205	10.86
1,001–3,000	568	29.13	1,042	55.22
3,001–5,000	348	17.85		
5,001–10,000	257	13.18	278	14.73
10,001–20,000	80	4.10	101	5.35
20,001–50,000	37	1.90	28	1.48
50,001–100,000	9	0.46	5	0.27
Over 100,000	2	0.10	2	0.11
Total	1,950	100.00	1,887	100.00
AREA—NORTH CENTRAL PLAIN—	Area in Acres.		Area in Acres.	
Under 51	2,440	0.03	1,568	0.02
51–100	2,361	0.03	2,146	0.03
101–500	67,597	0.89	35,568	0.46
501–1,000	210,918	2.79	150,667	1.96
1,001–3,000	1,072,640	14.17	2,831,565	36.92
3,001–5,000	1,392,994	18.40		
5,001–10,000	1,727,250	22.82	1,843,780	24.04
10,001–20,000	1,098,457	14.51	1,337,418	17.44
20,001–5,000	1,140,535	15.07	869,420	11.33
50,001–100,000	572,234	7.56	334,460	4.36
Over 100,000	281,806	3.72	263,517	3.44
Total	7,569,232	100.00	7,670,109	100.00
HOLDINGS—CENTRAL PLAIN—	Number.		Number.	
Under 51	65	2.71	46	2.09
51–100	44	1.83	38	1.72
101–500	106	4.42	70	3.18
501–1,000	211	8.80	94	4.26
1,001–3,000	772	32.18	1,013	45.96
3,001–5,000	422	17.59		
5,001–10,000	533	22.22	604	27.40
10,001–20,000	151	6.29	252	11.43
20,001–50,000	71	2.96	68	3.09
50,001–100,000	19	0.79	18	0.82
Over 100,000	5	0.21	1	0.05
Total	2,399	100.00	2,204	100.00

APPENDIX—*continued.*

Size in Acres.	1926–27.		1947–48.	
AREA—CENTRAL PLAINS—	Area in Acres.	Per cent.	Area in Acres.	Per cent.
Under 51	1,609	0.01	961	0.01
51–100...	3,310	0.02	2,558	0.02
101–500	28,826	0.21	19,712	0.14
501–1,000	168,078	1.23	70,157	0.51
1,001–3,000	1,516,343	11.13	2,894,887	21.14
3,001–5,000	1,698,922	12.47		
5,001–10,000	3,489,767	25.61	4,096,841	29.91
10,001–20,000	2,124,772	15.59	3,285,406	23.99
20,001–50,000	2,145,610	15.75	1,893,582	13.82
50,001–100,000	1,233,681	9.05	1,276,201	9.32
Over 100,000	1,216,029	8.93	156,726	1.14
Total	13,626,947	100.00	13,697,032	100.00
HOLDINGS—RIVERINA—	Number.		Number.	
Under 51	1,397	18.71	969	14.53
51–100...	251	3.36	373	5.59
101–500	1,415	18.95	784	11.76
501–1,000	1,758	23.55	1,887	28.30
1,001–3,000	1,787	23.94	2,075	31.12
3,001–5,000	331	4.43		
5,001–10,000	278	3.72	314	4.71
10,001–20,000	115	1.54	146	2.19
20,001–50,000	92	1.23	82	1.23
50,001–100,000	31	0.42	26	0.39
Over 100,000	11	0.15	12	0.18
Total	7,466	100.00	6,668	100.00
AREA—RIVERINA—	Area in Acres.		Area in Acres.	
Under 51	32,873	0.20	24,131	0.15
51–100...	18,165	0.11	23,486	0.15
101–500	441,376	2.74	259,757	1.60
501–1,000	1,243,025	7.72	1,335,151	8.24
1,001–3,000	3,076,018	19.11	4,230,398	26.12
3,001–5,000	1,258,850	7.83		
5,001–10,000	1,958,799	12,17	2,150,357	13.28
10,001–20,000	1,602,595	9.96	2,045,567	12.63
20,001–50,000	2,775,762	17.24	2,456,466	15.17
50,001–100,000	2,199,362	13.66	1,807,486	11.16
Over 100,000	1,490,416	9.26	1,862,190	11.50
Total	16,097,241	100.00	16,194,989	100.00
HOLDINGS—EAST OF DARLING—	Number.		Number.	
Under 51	245	23.42	373	29.70
51–100...	22	2.10	41	3.26
101–500	56	5.35	30	2.39
501–1,000	29	2.77	22	1.75
1,001–3,000	40	3.82	81	6.45
3,001–5,000	26	2.49		
5,001–10,000	53	5.07	47	3.74
10,001–20,000	164	15.68	119	9.47
20,001–50,000	242	23.14	346	27.55
50,001–100,000	77	7.36	134	10.67
Over 100,000	92	8.80	63	5.02
Total	1,046	100.00	1,256	100.00

APPENDIX—*continued.*

Size in Acres.	1926–27.		1947–48.	
AREA—EAST OF DARLING—	Area in Acres.	Per cent.	Area in Acres.	Per cent.
Under 51	4,814	0.01	7,528	0.02
51–100	1,658	0.01	2,683	0.01
101–500	13,759	0.04	6,761	0.02
501–1,000	18,756	0.05	15,049	0.05
1,001–3,000	64,864	0.19	196,256	0.60
3,001–5,000	102,872	0.30		
5,001–10,000	407,765	1.19	341,275	1.04
10,001–20,000	2,380,575	6.92	1,757,146	5.34
20,001–50,000	7,495,068	21.80	11,386,339	34.59
50,001–100,000	5,096,619	14.82	9,044,654	27.46
Over 100,000	18,800,169	54.67	10,164,661	30.87
Total	34,386,919	100.00	32,922,082	100.00
HOLDINGS—WEST OF DARLING—	Number.		Number.	
Under 51	57	8.31	53	7.01
51–100	6	0.88	3	0.40
101–500	14	2.04	11	1.46
501–1,000	30	4.37	8	1.06
1,001–3,000	35	5.10	28	3.70
3,001–5,000	14	2.04		
5,001–10,000	51	7.43	47	6.22
10,001–20,000	115	16.76	150	19.84
20,001–50,000	169	24.64	201	26.59
50,001–100,000	92	13.41	152	20.10
Over 100,000	103	15.02	103	13.62
Total	686	100.00	756	100.00
AREA—WEST OF DARLING—	Area in Acres.		Area in Acres.	
Under 51	492	.....	463	.....
51–100	519	.....	223	.....
101–500	4,063	0.10	3,437	0.01
501–1,000	21,327	0.05	5,361	0.01
1,001–3,000	59,334	0.14	87,087	0.20
3,001–5,000	60,420	0.14		
5,001–10,000	405,127	0.93	351,477	0.81
10,001–20,000	1,523,670	3.49	2,110,751	4.88
20,001–50,000	5,329,802	12.19	6,689,546	15.46
50,001–100,000	6,323,365	14.47	10,704,311	24.74
Over 100,000	29,981,139	68.59	23,319,773	53.89
Total	43,709,258	100.00	43,272,429	100.00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MAP OF
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SHOWING
STATISTICAL DIVISIONS
PAST AND PRESENT
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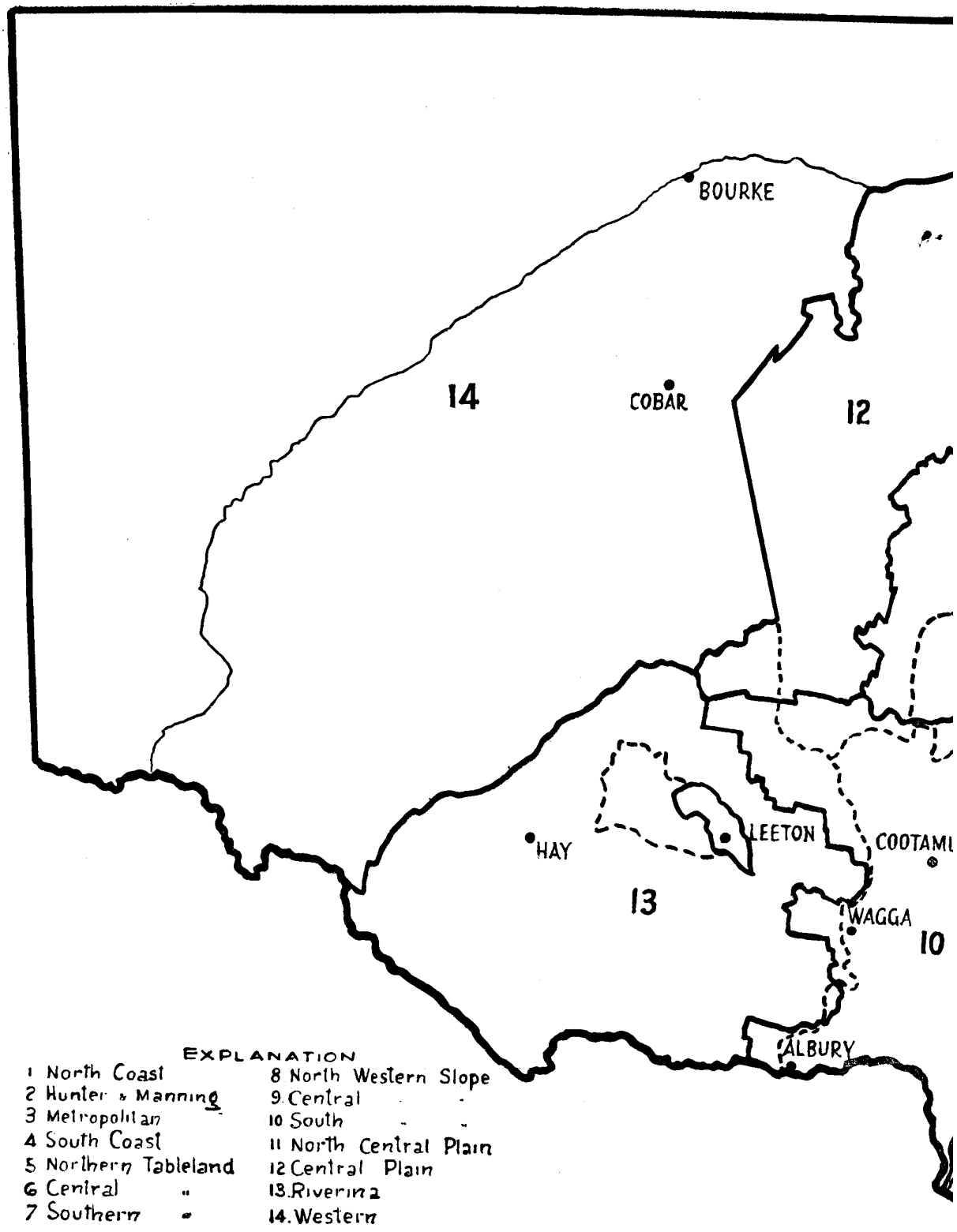
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2 Hunter & Manning
3 Metropolitan
4 South Coast
5 Northern Tableland
6 Central "
7 Southern "
8 North Western Slope
9 Central "
10 South "
11 North Central Plain
12 Central Plain
13. Riverina
14. Western

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