# BEEF PRODUCTION IN NORTH-WESTERN NEW SOUTH WALES.

by
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## 1. INTERDEPENDENCE OF THE CATTLE INDUSTRY.

In any discussion of the possibilities for increasing beef production in Australia it is important to bear in mind the nation-wide nature of the industry. In particular, the interdependence of the industry in the south with that in the north should be considered. From 200,000 to 400,000 cattle (mainly stores) cross the border from Queensland into New South Wales each year, and cattle from Northern Australia often travel as far south as Victoria before being slaughtered. The future development of the industry in New South Wales therefore depends to some extent on developments in Queensland and the Northern Territory.

The many problems associated with increasing beef production in the more remote areas of Northern Australia have already been discussed in various reports.[1] From these it is clear that the steps required to increase productivity on the large cattle stations in the north are essentially of a long-term nature, and depend upon the provision of basic improvements such as additional boundary fences and water points and better transport facilities. On the more closely settled properties in Southern Australia, on the other hand, there is scope for increased cattle production in a shorter time, as the basic facilities are

*In the course of the field investigation on which this study is based, the author had the benefit of working in co-operation with Mr. J. H. Kelly of the Bureau of Agricultural Economics, Canberra. Unfortunately, Mr. Kelly was unable to participate in the preparation of this report owing to the interposition of other work. However, his contribution in the early stages of the survey is gratefully acknowledged.

[1]For the most recent of these, see J. H. Kelly, "Report on the Beef Cattle Industry in Northern Australia", Bureau of Agricultural Economics, Canberra, 1952; W. A. Beattie, "A Survey of the Beef Cattle Industry of Australia, Part I: Northern Australia", Commonwealth Scientific and Industrial Research Organization, Melbourne, 1952; J. H. Kelly and D. B. Williams, "The Beef Industry in Northern Australia", *The Economic Record*, Vol. XXIX, No. 57 (November, 1953); and R. A. Patterson, "Australian Beef Cattle Industry", *Quarterly Review of Agricultural Economics*, Vol. VII, No. 2, (April, 1954). See also *The Australian Veterinary Journal*, Vol. 28, No. 11 (November, 1952), which contains papers on beef cattle production by R. D. Chester, A. L. Rose and M. C. Franklin.

already in existence. Nevertheless, the apparent scope for a quicker increase in beef production in the south does not eliminate the necessity for development of the industry in the north. In this connection, Kelly suggests that:—

> "Eastern Queensland and Southern Australia offer the best prospects of increasing beef production in the short term, but the importance of long-term development in the more remote far northern areas must not be ignored. Both should be combined in an overall plan. It is quite as important to look at the complete integration of the overall beef production resources of Australia as it is to consider short-term possibilities of quick production increases".[2]

As drought losses are very heavy in the north it is important to consider ways in which closer integration with southern areas might help the industry as a whole.[3] One proposal is that all saleable cattle should be removed from Northern Australia at an earlier age. The supporters of this view point out that if young cattle were moved out from the northern breeding areas as weaners a new source of suitable cattle would be available for fattening in Central and Southern Queensland.[4] The desirability of development along these lines has often been suggested. In 1938 Hammond wrote:—

> "In most beef producing countries (Argentine, Britain, the U.S.A.) beef cattle for slaughter are transferred from a breeding area to a fattening area for finishing. Breeding is a slow process and so is profitable only on cheap land (except where it is a by-product of another industry (butter making) from dual purpose cows) whereas fattening, which is a quicker process, requires good feed conditions and more valuable land. In Australia the bulk of the beef is finished in the same areas in which it is bred. This puts beef production at the mercy of the climate for where breeding and feeding take place in different areas there is a two to one chance against the climate as transfers of stock can be delayed or speeded up as required. Long distances of many of the breeding areas from rail transport prevent the removal of the young animal from the district at weaning (as now occurs in the United States and Argentine) and putting it on good feed so that the calf flesh and good conformation are retained. Instead the weaned animal has to face, each year, periods of low, alternating with high, feeding, so that usually it is four years old or so before it is strong and/or fat enough to move to a slaughtering centre. Consequently, the bulk of the beef produced is too old, too poor in conformation, and not well finished enough to be of first quality."[5]

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[2] J. H. Kelly, *op. cit.*, p. 247.

[3] In the course of its report on the industry in the north, the Royal Commission on Pastoral Lands Settlement (Queensland, 1951) stated: "The first line of attack on the static nature of cattle numbers would appear to be to reduce losses . . . Statistics presented by two large Gulf properties indicated that over the past 25 years the number of cattle lost through death was 50 per cent. greater than the number marketed over the period. In addition to losses by death there are losses of condition and quality caused by diseases and pests and by malnutrition. Measures for the alleviation of losses are necessarily primarily based on the prior provision of adequate sub-division fencing and include (*a*) pasture management and conservation, (*b*) control of breeding, (*c*) control of disease, (*d*) pest control and (*e*) improved transport and stock routes. Perhaps the most important factors in raising production from the distant breeding areas would be the extension of railways and the improvement of stock routes." (Pp. 31-2.)

[4] See: R. D. Chester, "Some Problems of Beef Cattle Production", *The Australian Veterinary Journal*, Vol. 28, No. 11 (Novmeber, 1952) p. 279.

[5] J. Hammond, "A Report on the Conditions of Animal Production in Australia", *C.S.I.R. Pamphlet*, No. 79, 1938, p. 9.

More recently it has been reported by Beattie that:—

> "In the Northern Territory and much of remote Queensland, it is doubtful whether a third of the calves born are eventually marketed. In a poor northern season there is a tendency for northern cattle to find their way down the stock routes to the south, and as they get very run down in the long walk over the dry stock routes, many are lost. Of those which reach their destination some are carriers of bovine pleuropneumonia, and they cause severe outbreaks amongst the clean beef and dairy herds of the south . . . At present the southern grazier just can't be sure of getting good weaners because there is no transport to bring them down from the north, and if there were he would have to face the risk of disease unless control measures were perfected at the northern end . . . It would be in the interests of both northerner and southerner to sell and buy, respectively, young weaned calves. The northerner could turn off far more of them, more would go into a railway truck, and the risk of loss would be minimized. It is in the year or two after weaning that most of the northern losses occur, and there is no point in holding cattle only to lose a percentage of them. From the buyer's point of view, the youngsters would be fat off their mothers; would acclimatize rapidly, would suffer no setback which would otherwise spoil their shape or conformation, and there would be a rapid turnover."[6]

Beattie further points out that:—

> "Summer rain renders it virtually impossible to muster or move stock over the greater part of Northern Australia from November to March. Slaughterings thus reach a peak between April and September and are low during the rest of the year. Practical difficulties, including heat, make any change difficult. . . . It is in the summer months that the southern States fill a complementary role by turning off as fats, stock brought in from the north during the winter months."[7]

## 2. THE INDUSTRY IN NORTH-WESTERN NEW SOUTH WALES.

The possibilities of increasing beef production in North-Eastern New South Wales were discussed in the March, 1954, issue of this journal.[8] The authors pointed out that, although the area covered by their report comprises the most specialized beef producing area in the State, further expansion of the industry depends largely upon the solution of some limiting problems, chief of which are (*a*) the low nutritional level of winter pastures and serious mineral deficiences, (*b*) rabbits, (*c*) cattle ticks and (*d*) insufficient water points. However, it was suggested that attention to these factors would undoubtedly raise the potential beef output in the area.[9]

In the present article it is proposed to continue the study of the beef industry in this State by considering the nature of the industry in the North-West. The relevant area includes the Shires of Peel, Liverpool Plains and Yallaroi on the North-Western Slope and the Shires of Boolooroo, Boomi, Namoi and Walgett on the Central and North-Central Plains. The area, which is shown on the accompanying map, comprises the greater part of the Namoi Region as defined by the Premier's Department. Hereafter the survey area will be referred to as Region B.

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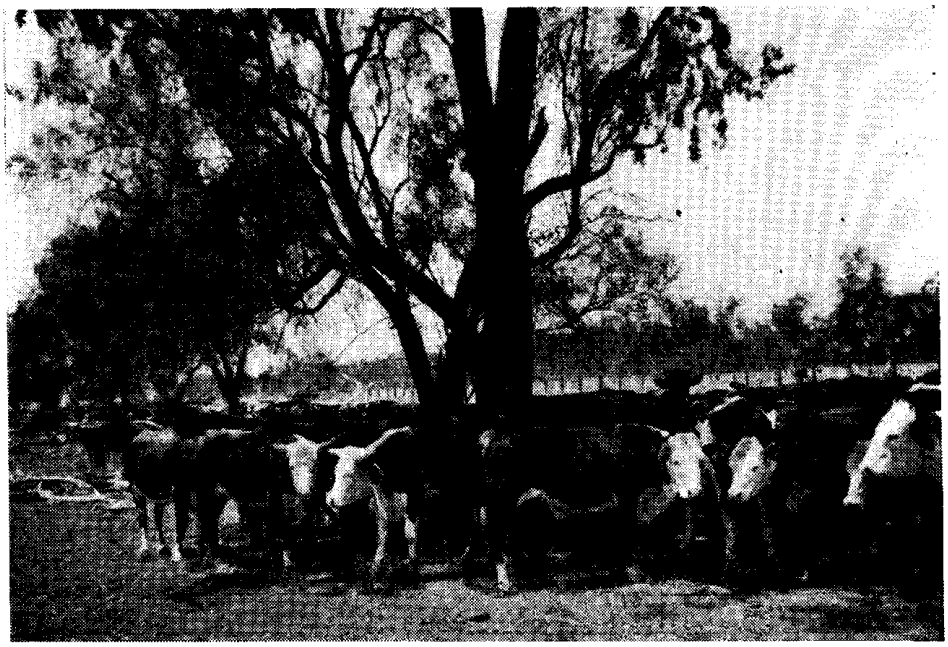
[6] *Pastoral Review*, November 15, 1952, p. 1186.

[7] W. A. Beattie, "A Survey of the Beef Cattle Industry of Australia, Part 1, Northern Australia, 1952", p. 76.

[8] See: John H. Kelly and Wyn F. Owen, "Beef Production in North-Eastern New South Wales", *Review of Marketing and Agricultural Economics*, Vol. 22, No. 1 (March, 1954), pp. 7-27.

[9] A tick eradication campaign will commence in January, 1956.



**A typical mob of store cattle travelling by stock route from southern Queensland to northern New South Wales for fattening. The owner of these cattle has a property in Queensland which is used for holding store cattle until there is feed available for them on his New South Wales property.**

The type of farming with which cattle raising is associated in the North-West is, of course, quite different from that in the North-East (Survey Region A) where dairy cattle constitute a large proportion of total cattle numbers. In the eastern part of Region B, cattle raising is subsidiary to wheat/sheep farming which is the predominant system of land use. Some of the larger holdings are devoted entirely to grazing sheep and cattle, but grazing does not become general until a line slightly west of Narrabri and Moree is reached. West of this line the rainfall is insufficient for cropping and there is a change from mixed farming (mainly wheat, wool and fat lambs) to purely grazing. Cattle are carried throughout the whole of the survey area but wheat and sheep are the main enterprises. In the mixed farming areas attention is given to fat lambs in addition to wool, but further west wool production predominates and merinos are run almost entirely.

## 3. RECENT TRENDS IN CATTLE NUMBERS.

In recent years there has been a greater increase in cattle numbers on the North-Western Slope and North-Central Plain than in other sections of the State. Part of this increase is attributable to recovery from drought, but by 1950 cattle numbers in these two Divisions were at a higher level than ever before (see Figure 2.). In March, 1951, there were approximately 335,000 cattle on the North-Western Slope and almost 190,000 on the North Central Plain. These record numbers represent an increase of 15 per cent. on the previous peak on the North-Western Slope (in 1935) and an increase of 42 per cent. on the highest number previously attained (in 1922) on the North Central Plain. The more pronounced nature of the recent increase in numbers on the

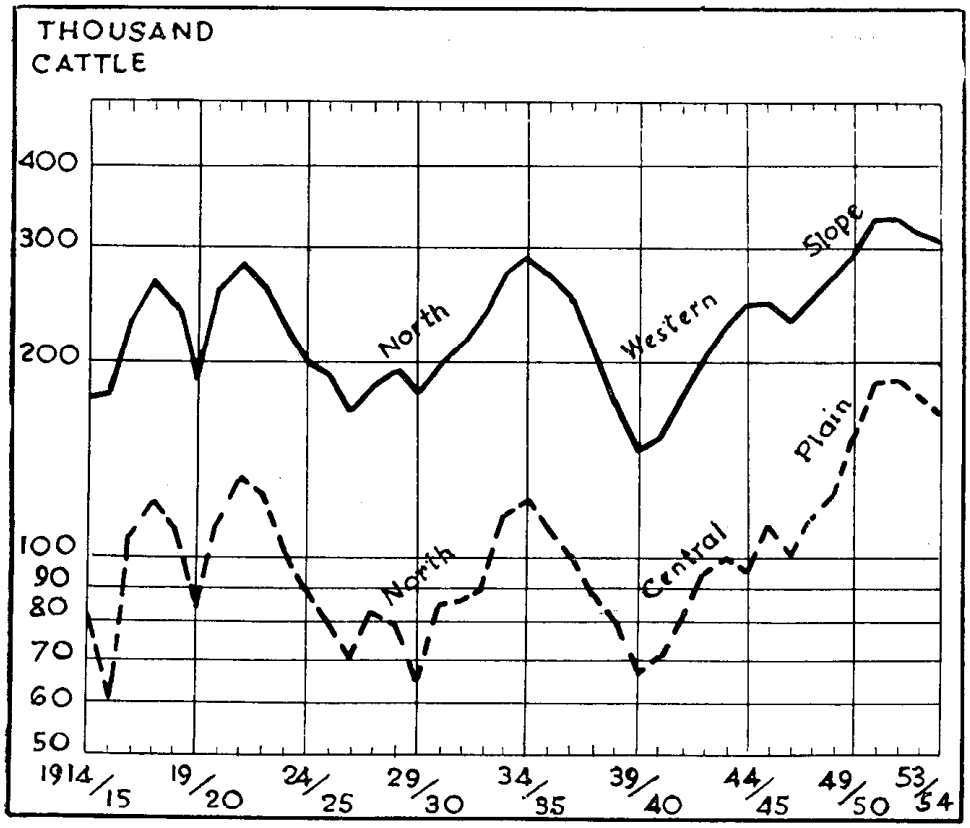



**Fig. 2.—Trends in Cattle Numbers (all cattle) in the North-Western Slope and North-Central Plain Statistical Divisions, 1915 to 1954. The graph illustrates the higher level of cattle numbers since 1950, especially in the latter Division.**

North-Central Plain can be seen from the graphs in Figure 2. Numbers have declined slightly in the last two years, due to dry seasons, but the cattle population on the North-Central Plain in March, 1954, was still 25 per cent. above that in 1922 and the population on the North-Western Slope was 6 per cent. above the 1935 level.

Beef cattle numbers in the survey shires, and New South Wales as a whole, since 1946-47 are given in Table I. By March, 1951, the number of beef cattle in the seven shires had reached 294,000 head, representing about 12 per cent. of the total for the State. The proportion of the State's beef cattle carried in Region B has remained about

TABLE I.

*Beef Cattle Numbers—Survey Shires—*1947 *to* 1954.

| Shire. | 1946–47. | 1947–48. | 1948–49. | 1949–50. | 1950–51. | 1951–52. | 1952–53. | 1953–54. |
|---|---|---|---|---|---|---|---|---|
| | '000 | '000 | '000 | 000 | '000 | '000 | '000 | '000 |
| Liverpool Plains | 20·7 | 24·9 | 25·5 | 32·4 | 40·0 | 37·7 | 34·9 | 31·4 |
| Peel ... ... | 6·5 | 7·6 | 9·2 | 11·9 | 15·4 | 14·6 | 15·0 | 12·8 |
| Yallaroi ... ... | 35·5 | 39·3 | 38·9 | 41·2 | 47·5 | 53·7 | 52·6 | 55·6 |
| Boolooroo ... | 24·1 | 28·1 | 28·0 | 31·0 | 41·0 | 44·0 | 43·8 | 39·5 |
| Boomi ... ... | 22·1 | 26·3 | 29·1 | 42·0 | 54·3 | 52·2 | 45·9 | 44·6 |
| Namoi ... ... | 29·3 | 31·3 | 36·3 | 45·8 | 56·7 | 55·0 | 49·4 | 47·7 |
| Walgett ... ... | 14·0 | 20·6 | 21·2 | 28·8 | 39·0 | 36·5 | 30·6 | 28·0 |
| Total ... | 152·2 | 178·1 | 188·2 | 233·1 | 293·9 | 293·7 | 272·2 | 259·6 |
| State Total | 1,711·8 | 1,841·7 | 1,942·5 | 2,114·7 | 2,408·9 | 2,369·9 | 2,357·0 | 2,267·8 |

*Source*: Bureau of Statistics and Economics, Sydney.

the same since 1951, although there has been a slight decline in numbers due to dry seasons. However, it will be noted by reference to Figure 3, that the increasing trend has persisted in Yallaroi Shire where new areas are being cleared for cropping and grazing and where some farmers have changed the organization of their enterprises in order to give more prominence to cattle.

*Size of Herds.*

Throughout the North-Western Slope and North-Central Plain, a high proportion of holdings carrying beef cattle have small herds of less than 50 to 100 head. In 1950, the latest year for which figures are available, approximately 65 per cent. of holdings with beef cattle had herds of under 50 head and about 80 per cent. had less than 100. As can be seen from Tables II and III the remaining herds varied in size to over 500 head. It should be noted, however, that, in 1950, about 60 per cent. of the total beef cattle in these Divisions were carried on about 10 per cent. of the holdings, viz., those with herds of 200 head or more. On the other hand, the herds of 50 or less accounted for approximately 12 per cent. of the total beef cattle, and those of 100 head or less constituted approximately 24 per cent. of the total.

TABLE II.

*Size of Beef Herds—North-Western Slope Division, 31st March, 1950.*

| Size of Herd | Proportion of Herds in Group | Proportion of Total Beef Cattle in Group | Size of Herd | Proportion of Herds in Group | Proportion of Total Beef Cattle in Group |
|---|---|---|---|---|---|
| | Per cent. | Per cent. | | Per cent. | Per cent. |
| Under 20 ... | 45·4 | 3·8 | 150–199 ... | 3·6 | 7·4 |
| 20–49 ... | 20·3 | 7·5 | 200–299 ... | 4·2 | 11·9 |
| 50–99 ... | 14·3 | 11·7 | 300–499 ... | 2·9 | 13·4 |
| 100–149 ... | 6·5 | 9·4 | 500 and over | 2·8 | 34·9 |

*Source*: Bureau of Statistics and Economics, Sydney.

TABLE III.

*Size of Beef Herds—North-Central Plain Division, 31st March, 1950.*

| Size of Herd. | Proportion of Herds in Group. | Proportion of Total Beef Cattle in Group. | Size of Herd. | Proportion of Herds in Group. | Proportion of Total Beef Cattle in Group. |
|---|---|---|---|---|---|
| | Per cent. | Per cent. | | Per cent. | Per cent. |
| Under 20 ... | 38·1 | 3·5 | 150–199 ... | 4·0 | 7·5 |
| 20– 49 ... | 24·9 | 8·8 | 200–299 ... | 4·5 | 12·2 |
| 50– 99 ... | 16·3 | 12·5 | 300–499 ... | 2·5 | 10·2 |
| 100–149 ... | 6·3 | 8·4 | 500 and over | 3·4 | 36·9 |

*Source*: Bureau of Statistics and Economics, Sydney.

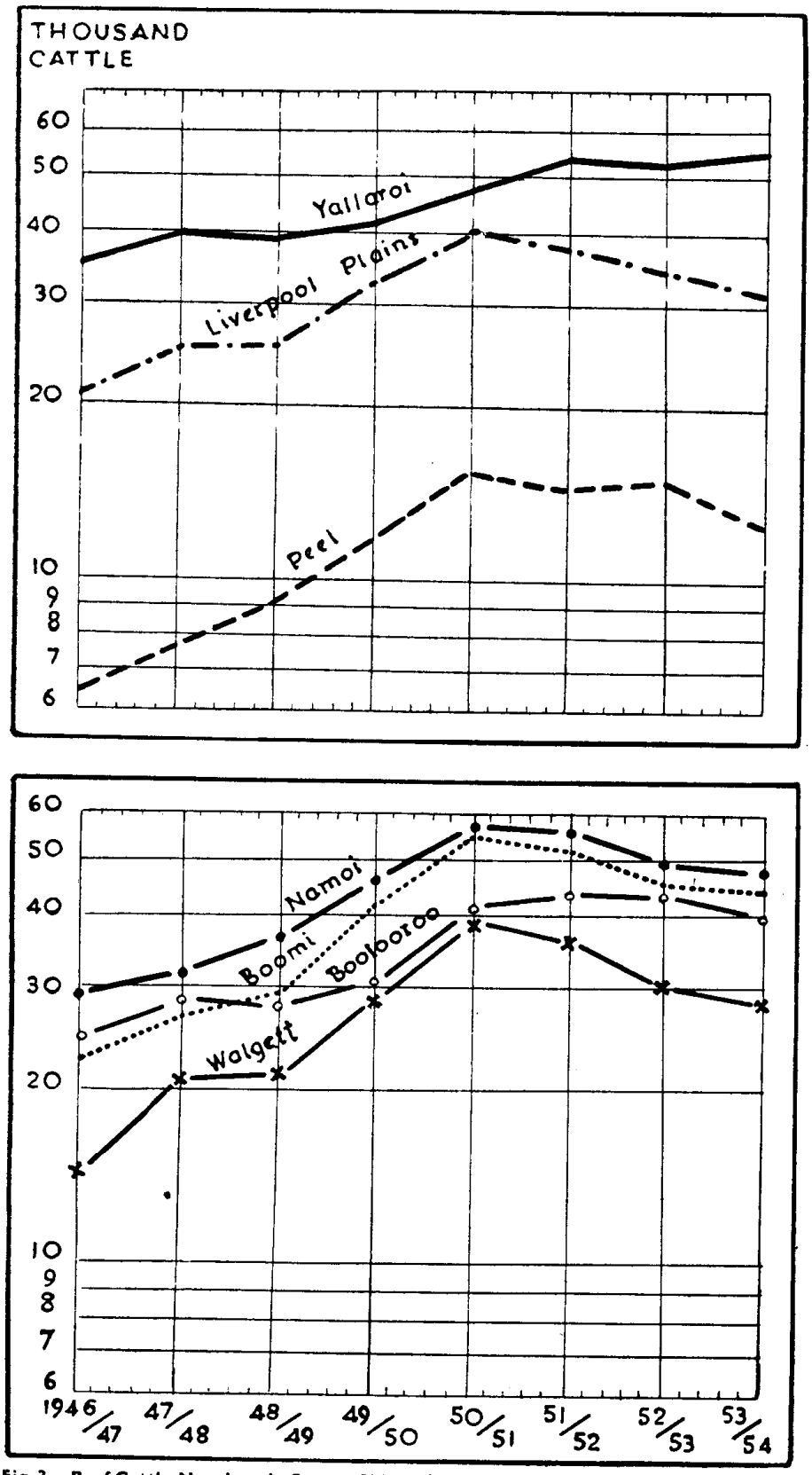



Fig. 3.—Beef Cattle Numbers in Survey Shires, 1947 to 1954. Walgett, Booloooroo, Boomi and Namoi Shires form part of the Central and North-Central Plain Divisions and Peel, Liverpool Plains and Yallaroi are in the North-Western Slope Division.

## 4. ORGANIZATION OF THE BEEF ENTERPRISE.

In general, wheat/sheep farmers in the North-West have not yet given detailed consideration to the place of beef cattle in their farm organization, and commonly just use them to eat rank grass not preferred by sheep. Under these circumstances the level of beef production in the area depends largely upon seasonal conditions, and the recent higher level of cattle numbers may be attributed mainly to the occurrence of a succession of good seasons since 1946-47. There is, nevertheless, some evidence of greater interest in cattle raising as an additional enterprise on some properties. Some wheat/sheep farmers have been able to give a more permanent place to beef cattle as a result of programmes of intensification involving closer sub-division of paddocks, more fodder crops and increased investment in machinery and facilities for fodder conservation and storage.

The nature of the beef enterprise varies throughout the area. On the large, purely grazing, holdings on the North Central Plain the country is generally considered to be best suited to sheep, and most graziers carry only sufficient cattle to eat long grass and improve pastures for sheep. Nevertheless, as in the case of the wheat/sheep farms, cattle numbers have increased on the grazing properties in the last few years. Again, the increase may be said to be primarily due to a plentiful supply of pasture feed as a consequence of a series of good seasons. Although there is little doubt that the increase has been largely seasonal, cattle prices have been sufficiently attractive to induce some graziers to carry a higher ratio of cattle to sheep than usual. Moreover, for various reasons, a small proportion of graziers on the North Central Plain carry *mainly* cattle, even though they realize that returns easily favour sheep. Some simply prefer cattle to sheep; others have turned to cattle in order to be less dependent on outside labour, and others have chosen the present period of favourable cattle prices to rest their pastures from the more selective and close-grazing habits of sheep.

On the purely grazing properties in the western part of Region B, graziers buy either steers or cows and calves for fattening. It is generally considered that the most profitable practice is to buy cows with calves at foot and due to calve again. This method enables the grazier to market the vealers and later fatten the cows for sale. This practice is also common on the mixed crop-and-livestock farms, but under the latter system of farming the cattle enterprise often has a more permanent place, and an attempt is made to maintain a breeding herd at all times. Some wheat/sheep farmers have for many years regarded cattle as an essential enterprise, and they would not sacrifice their breeding stock unless seasonal conditions were very bad.

Among wheat/sheep farmers, raising vealers is clearly the most popular form of beef production, as these can be produced quickly and turned off at about ten months at upwards of 320 lb. at a return of about £8 per 100 lb. In this way vealers can be marketed straight off the cow to "fill the place among cattle that sucker lambs fill among

sheep."[10] Yearling beasts of about 400 lb. can be produced fairly easily, whereas it is often difficult to get them to 800 lb. in three years. In addition, the mother can be sold in fat condition. In some cases wheat/sheep men also purchase store stock for fattening when feed is available, care being taken to buy only when it can be seen that there is enough feed to fatten the stock.

Some indication of the relative importance of the income from vealers, compared with lambs, on mixed farms can be seen from the following examples which set out the organization of farm enterprises on two farms of different sizes on the North-Western Slope.

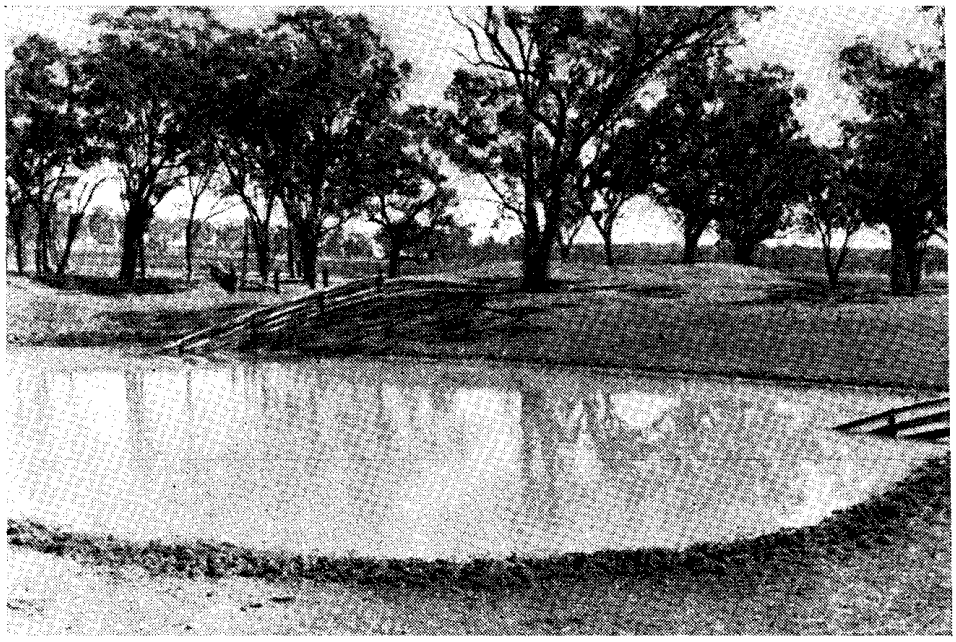


**Illustration of a type of earth dam widely used in the wheat and sheep districts of New South Wales.**

*Example* 1.

*Area of Farm*—3,200 acres.

*Enterprises*—

1,500 sheep (including 1,000 breeding ewes).
40 cows.
1,000 acres of wheat.
500 acres of fodder crops (oats, Sudan grass and lucerne).

Under this arrangement the following gross receipts from the lamb and vealer enterprises could be expected:—

| | £ |
|---|---|
| *Vealer Enterprise*— | |
| 32 vealers at £25 per head .. .. .. | 800 |
| *Lamb Enterprise*— | £ |
| 800 lambs at £4 per head .. .. .. | 3,200 |
| Plus the value of wool from 1,000 ewes .. | 3,000 |
| | £6,200 |

[10] J. Hammond, *op. cit.*, p. 11.

*Example 2.*

*Area of Farm*—1,100 acres.

*Enterprises*—

500 sheep (including 450 breeding ewes).
60 cows.
250 acres of wheat.
50 acres of lucerne.
50-100 acres of oats or barley for grazing.

In this case the vealer and lamb enterprises could be expected to produce the following gross receipts:—

| | £ |
|---|---|
| *Vealer Enterprise*— | |
| 48 vealers at £25 per head .. .. .. | 1,200 |
| *Lamb Enterprise*— | £ |
| 360 lambs at £4 per head .. .. .. | 1,440 |
| Plus the value of wool from 450 ewes .. | 1,350 |
| | £2,790 |

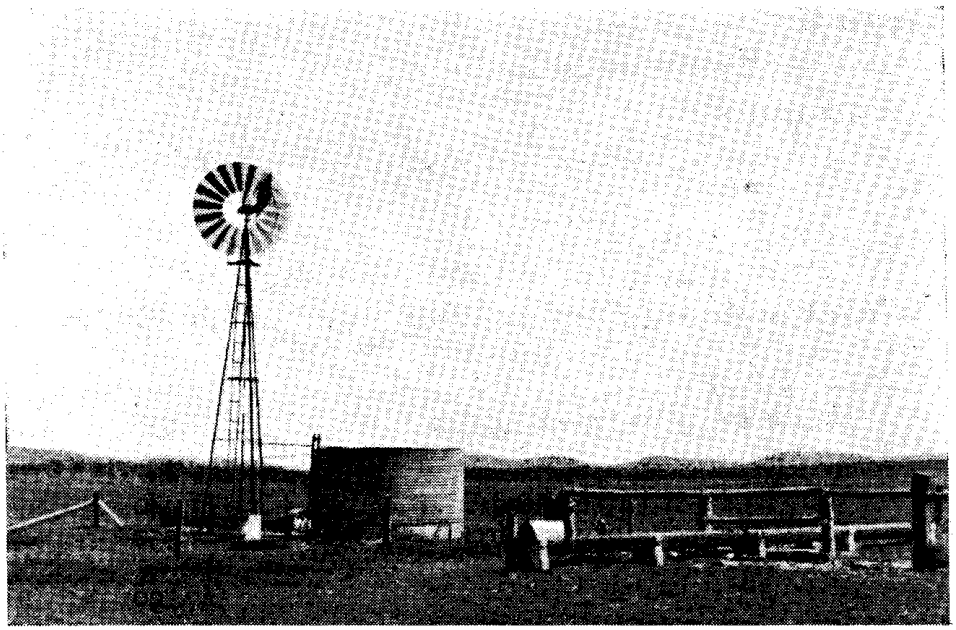
As lambs are marketed at about four months they give a quicker return than vealers which are marketed at 10 to 12 months. A further consideration in each case is the market value of aged breeding stock. It could be assumed that ewes could be sold for about £3 10s. 0d. after about five years and cows for £20-£25 after about ten years.

## 5. CHANGES IN LAND USE TO GIVE MORE EMPHASIS TO CATTLE.

### Relation of Cattle to the Sheep and Crop Enterprises.

Although most farmers and graziers in Region B do not devote very much attention to beef cattle, they mostly find that they can carry some cattle without sacrificing sheep numbers.[11] Thus cattle are, in effect, complementary to the sheep enterprise. Farmers commonly say they *need* to carry cattle, especially in good seasons, to cope with tall growth and to improve pastures for sheep. Cattle are also used to graze the stubble of grain crops before turning the sheep in.

[11]Kelly suggests "In the Australian grass economy, there is at present a tendency amongst graziers to correct the imbalance between sheep and beef cattle, under extensive grazing conditions, by increasing the proportion of beef cattle to sheep. Some Queensland graziers who have deliberately sought to make this correction by reducing sheep numbers to make way for greater numbers of cattle, have found that sheep numbers do not, in fact, have to be heavily sacrificed to make way for more cattle. They have also found that the grazing of greater numbers of cattle actually stabilises the normal sheep carrying capacity. This has been borne out by the experience of the 1951-52 drought, and sheepmen are now showing much greater interest than in the past in correcting the imbalance between sheep and cattle on their properties. If this interest is maintained (there is a good reason in higher beef prices why it should be), the result will probably be a substantial increase of cattle numbers on sheep properties throughout Australia." J. H. Kelly, *op. cit.*, p. 68.



**An illustration of a well-equipped stock water point in the Narrabri district on the North Western Slope.**

On mixed farms cattle are sometimes fed hay in dry spells, but to date, supplementary feeding has not been adopted as a general practice. Wheat and sheep are the main enterprises, and most farmers have a fairly full programme with these and have given little thought to the question of how they could give greater emphasis to cattle. As the present system of farming, with sheep and wheat the main sources of income, and the production of beef and other grain or fodder crops as subsidiaries, is very successful, many farmers would probably increase beef production only if this could be achieved without prejudicing the sheep enterprise. A sharp fall in wool prices and an increase in beef prices would of course be likely to induce an expansion of beef production in the area. Some changes in the system of farming could also be expected to occur in response to changes in the relative prices of crop and livestock products.

## Scope for Further Intensification.

As already indicated, the beef industry in the North-West, as it is at present organized, is subject to seasonal fluctuations. Consequently, one of the main considerations for farmers wanting to increase beef production will be how to reduce the risk of drought losses. A variety of arrangements could no doubt be made to meet this problem, the solution most likely to be adopted being to produce and conserve more fodder. This implies a more intensive system of land use and, to be successful, farmers would need to turn their attention to such details as what crops to grow, how much to feed and what extra sub-division, water points, buildings, equipment and labour would be required. In other words, a fundamental change in the system of farming would be involved, and the key question would be whether this could be worked out profitably.

There is undoubtedly tremendous scope for increased farm output in the North-West (even without irrigation). Since the mid-1930's there has been a comparatively rapid increase in crop and livestock production in the northern portion of the North-Western Slope, toward the Queensland border, and there is still scope for further expansion and intensification. In Yallaroi Shire alone a large area of country under brigalow-belah natural vegetation could be cleared for the production of wheat, other grain crops, wool and meat.

In addition to the increased output of crop and livestock products that may be expected in this section of the State as clearing of new areas progresses, there is considerable scope for increasing production by the adoption of more intensive farming methods. Closer settlement, further sub-division of paddocks, installation of irrigation equipment in suitable areas, increased production of fodder crops and improved pastures and more attention to the conservation of fodder and supplementary feeding of livestock are all means by which output could be increased. The extent to which such developments will take place will, of course, depend largely upon the economic circumstances with which farmers and graziers are faced.

More particularly, the changes that are likely to occur in the level of beef production will depend upon the relative profitability of cattle production compared with the income available from other enterprises, especially wool, wheat and fat lambs. In addition, farmers and graziers will need to consider whether there are any practical difficulties associated with an expansion of the beef enterprise. For instance, whether transport and market facilities are adequate and whether beef prices could be expected to be sufficiently stable would be important considerations. In the western portion of the region, toward the

**Illustration of the type of bore drain used to supply artesian water to properties in the western portion of the survey region.**

Barwon River, one problem is that cattle interfere with the bore drains which have been excavated to supply artesian water to the grazing properties. It is sometimes found that cattle damage the drains, thus upsetting the flow of water supplying a number of properties. For this reason, greater attention to the maintenance of bore drains may be required if cattle numbers are increased.

One possible future source of increased production is that of crop-fattening store cattle in conjunction with the growing of cereal crops. In the somewhat similar Darling Downs country, in southern Queensland, this practice has been followed extensively for over twenty years.[12] Referring to the technique of crop-fattening on the Darling Downs, Beattie says:—

> "The crops of wheat or oats, and often both, are sown between January and June, late and early varieties being used to give a good spread of grazing. About May, if growth is good, the first forward store bullocks are grazed at the rate of about one to 1½ acres, depending largely on the crop. Close attention has to be paid to the condition of the crop, and as it has to be spelled, subdivision is necessary. Use is made contemporaneously of the portion of the property that is down to grass. The cattle go back in condition for a fortnight after being placed on the green feed, as they scour heavily at first. The usual fattening period is about 2½-3 months. The store cattle used in crop fattening are usually 3-3½ years old. . . .
>
> "There are three hazards associated with this practice. The first is the normal crop hazard, the second the difficulty in obtaining good forward mature bullocks, and the third that of obtaining the necessary transport to bring the bullocks to the crop at the right time. The most successful fatteners are those who own other properties further north, but not too far away, and who can supply their own store bullocks."[13]

The practice has declined sharply since World War II, due to the higher level of grain prices and difficulties in obtaining store cattle, but a return to the previous relationship between grain and beef prices could be expected to induce a reversal of this trend.

Concurrent with the recent swing away from cattle fattening on mixed farms on the Darling Downs, there has been a tendency for cattlemen in the marginal wheat country of Queensland to grow more fodder crops for cattle. Although there is as yet no clear indication of whether crop-fattening of cattle will become important on mixed farms in the North-West of New South Wales, there is evidence of increased attention to fodder crops.

The rising trend in cattle numbers has been accompanied by a very marked expansion in the oats acreage throughout the area (see Table IV). The area sown to oats in Liverpool Plains Shire, for example, increased from 2,439 acres in 1937-38 to 28,182 acres in 1952-53. In the same period the increases in Peel and Yallaroi Shires were from 4,278 acres to 29,869 acres and from 848 acres to 19,696 acres respectively. In the more western Shires of Namoi and Boolooroo the increases were from 2,751 acres to 23,059 acres and from 237 to 4,656 acres respectively. There was a slight fall in the area sown to oats in each of the survey shires in 1953-54, except in Boolooroo where there was a further rise to 5,549 acres. Recent trends in the area sown to oats in the survey shires (excluding Walgett and Boomi, where there is very little cultivation) are illustrated in Figure 4.

[12]See: R. D. Chester, "Some Problems of Beef Cattle Production", *The Australian Veterinary Journal*, Vol. 28, No. 11 (November, 1952), pp. 273-287.

[13]W. A. Beattie, *op. cit.*, p. 17.

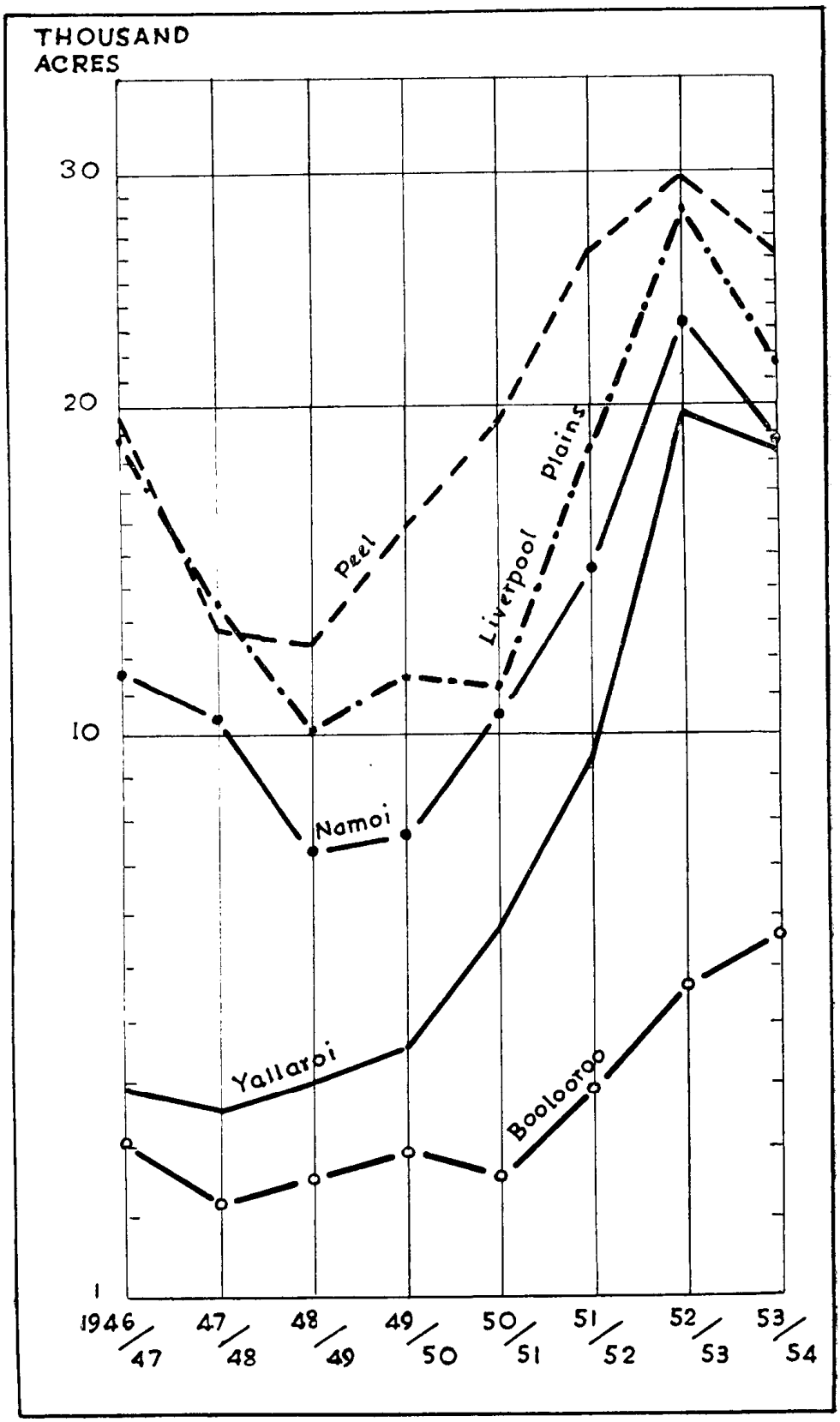



Fig. 4.—Acreage of Oats (for all purposes) in Five of the Survey Shires, 1947 to 1954.

TABLE IV.

*Oats Acreages-Survey Shires, North Western Slope and North-Central Plain Divisions and Total for New South Wales*—1947 *to* 1954.

| Shire or Division. | 1946–47. | 1947–48. | 1948–49. | 1949–50. | 1950–51. | 1951–52. | 1952–53. | 1953–54. |
|---|---|---|---|---|---|---|---|---|
| | '000 acres. | '000 acres. | '000 acres. | '000 acres. | '000 acres. | '000 acres. | '000 acres. | '000 acres. |
| Liverpool Plains ... ... | 18·9 | 13·6 | 10·1 | 11·5 | 11·3 | 18·4 | 28·2 | 21·7 |
| Peel ... ... ... | 19·7 | 12·7 | 12·3 | 15·8 | 19·3 | 26·3 | 29·9 | 26·4 |
| Yallaroi ... ... ... | 3·0 | 2·6 | 3·0 | 3·5 | 5·7 | 9·3 | 19·7 | 18·4 |
| Boolooroo ... ... ... | 2·1 | 1·2 | 1·6 | 2·0 | 1·6 | 2·8 | 4·7 | 5·5 |
| Boomi ... ... ... | 0·4 | 0·6 | 0·4 | 0·7 | 0·2 | 0·5 | 1·1 | 0·7 |
| Namoi ... ... ... | 11·6 | 10·3 | 7·3 | 7·7 | 10·5 | 14·5 | 23·1 | 18·9 |
| Walgett ... ... ... | 0·1 | 0·3 | 0·3 | 0·5 | 0·4 | 0·4 | 0·9 | 1·0 |
| Total ... ... ... | 55·8 | 41·3 | 35·0 | 41·7 | 49·0 | 72·2 | 107·6 | 92·6 |
| North Western Slope ... | 77·8 | 62·6 | 61·5 | 78·1 | 87·0 | 128·0 | 172·6 | 156·5 |
| North Central Plain ... | 28·0 | 24·4 | 19·1 | 22·3 | 23·5 | 37·7 | 59·1 | 48·2 |
| New South Wales ... | 933·3 | 1,042·9 | 753·3 | 759·3 | 663·7 | 964·1 | 1,214·7 | 1,034·2 |

*Source*: Bureau of Statistics and Economics, Sydney.

The rapid increases which have occurred in oats acreages have undoubtedly been due largely to high sheep values; as a consequence of high prices for wool, mutton and lamb, sheep have become more valuable and more attention has been given to the production of fodder crops to prevent losses. Nevertheless, on some properties, the increased production of oats has been associated with a shift of emphasis towards cattle raising. This applies particularly to some of the larger holdings toward the Queensland border, where there has been greater interest in oats for the specific purpose of providing fodder for cattle.

Production of oats and other fodder crops and pastures could be the basis for a considerable expansion of beef production in the North-West, although this seems unlikely to occur while wool prices remain high. An assured supply of store cattle and reliable transport facilities to bring them to the property at the required time would also be important factors for farmers considering crop fattening of cattle as a major enterprise. Some farmers and graziers in the area have largely overcome these difficulties by acquiring a property in Queensland which can be used for holding store cattle (purchased in Queensland) until there is feed for them on the southern property. The stock are moved down by motor transport or by droving along stock routes.

Variations in seasonal conditions naturally affect the growth of crops and, therefore, the number of fat cattle that can be turned off. However, the risk of crop failure in the area can be greatly reduced by fallowing to retain soil moisture. It has been found that successful crops can be grown in most years if careful attention is paid to cultivation to retain soil moisture.

The more widespread use of irrigation may also facilitate further increases in farm output in the North-West. Although irrigation has as yet been very little used in the survey area, some farmers have lately begun to consider the possibilities of introducing this form of intensification. The development of improved spray irrigation equipment and the prospects of the early completion of Keepit Dam have doubtless stimulated this interest. It is not proposed to discuss in

detail the likely benefits of the dam, as this could well be the subject of a special study. However, it is relevant to mention here that one result of regulating the flow of the Namoi River would clearly be to enable farmers to irrigate lucerne and other fodder crops which could be used to stabilize stock numbers at a higher level.

## 6. CONCLUSIONS.

Although beef production is commonly regarded as a minor enterprise in the North-West of New South Wales, the beef cattle population since 1950 has been at a higher level than ever before. The highest peak was reached in 1951 when there were 294,000 head, or 12 per cent. of the State total, in the seven shires included in the above study, viz., Peel, Liverpool Plains, Yallaroi, Namoi, Boomi, Boolooroo and Walgett.

As there is still tremendous scope for expansion of pastoral and agricultural production in the North-West, it may be anticipated that further increases in cattle numbers will occur in the future. Even without irrigation there is scope for greater output through the adoption of more intensive methods of farming than are at present in use. Since the mid-1930's there has been a fairly rapid increase in crop and livestock production in the northern portion of the North-Western Slope, and there is still scope for further clearing of land for the production of grain crops, wool and meat.

In contrast to the North-East of the State, there are no major difficulties preventing the expansion of beef production in the North-West. The country is very fertile and extremely healthy for livestock. However, the extent to which any expansion will occur will depend largely upon the profitability of cattle raising compared with the returns available from wool, wheat and fat lambs which have hitherto been the main sources of income.

Nearly all farmers and graziers in the survey area have some cattle, but the numbers carried are largely determined by seasonal conditions. The increasing trend since 1946-47, for instance, seems to have been primarily induced by a series of good seasons. There is nevertheless some evidence of greater interest in beef production in the area and, if prices remain favourable, this tendency may be expected to increase as more intensive systems of farming are adopted.

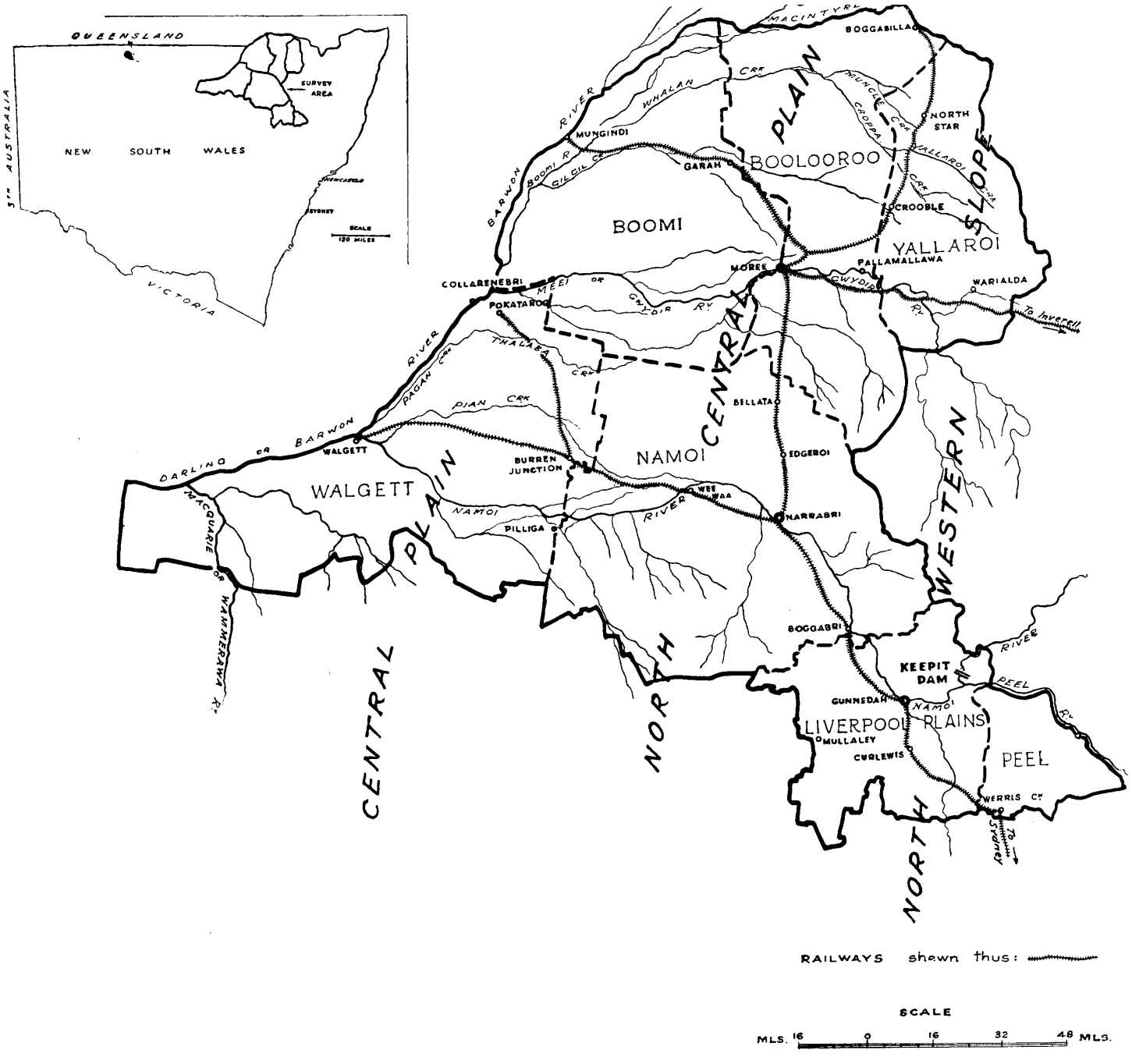
One of the main considerations for farmers and graziers wishing to give more emphasis to the beef enterprise is the question of how to reduce the risk of drought losses. There is little doubt that this problem could be largely overcome by producing and conserving more fodder. Clearly, this would involve changes in the organization of farm enterprises and decisions would have to be made regarding such factors as what crops to grow and whether any extra subdivision, water points or labour would be required.

Despite the subsidiary nature of the beef enterprise, most farmers and graziers find that they can carry some cattle without sacrificing sheep numbers. In fact, it is frequently claimed that cattle are necessary, especially in good seasons, to utilize long grass and improve pastures for sheep. However, the future development of the beef

industry in this section of the State cannot be predicted with any degree of certainty. The present system of farming, with sheep and wheat the main sources of income, is very successful, and although beef prices are relatively high, returns easily favour sheep.

Some increase in cattle numbers may be expected to follow the clearing of additional areas of cultivable land on the North-Western Slope but, apart from this, it would seem that further expansion of beef production in the North-West will depend primarily upon the adoption of more intensive methods.

Sydney: A. H. Pettifer, Government Printer—1955.


QUEENSLAND
SURVEY AREA
NEW SOUTH WALES
SYDNEY
SCALE 120 MILES
VICTORIA
MACINTYRE
BOGGABILLA
WHALAN CRK
MUNGINDI
BARWON RIVER
BOOMI R
GIL GIL CR
GARAH
BOOLOOROO PLAIN
MOUNGLE CROPPA CRK
NORTH STAR
YALLAROI CRK
CROOBLE
YALLAROI SLOPE
BOOMI
MOREE
PALLAMALLAWA
GWYDIR RY
WARIALDA
To Inverell
COLLARENEBRI
MEEI OR GWYDIR RY
POKATAROO
PAGAN CRK
THALAEA CRK
DIAN CRK
BELLATA
CENTRAL WESTERN PLAIN
DARLING OR BARWON RIVER
WALGETT
BURREN JUNCTION
NAMOI
EDGEROI
WEE WAA
NARRABRI
NAMOI RIVER
PILLIGA
WALGETT
MACQUARIE R
WAMBERAL R
CENTRAL NORTH PLAIN
BOGGABRI
KEEPIT DAM
NAMOI RIVER
PEEL RY
GUNNEDAH
LIVERPOOL PLAINS
MULLALEY
CURLEWIS
PEEL
WERRIS CK
To Sydney
NORTH WESTERN
RAILWAYS shewn thus:
SCALE
MLS. 16 0 16 32 48 MLS.