FARMING IN TASMANIA. 1840 - 1914

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Summary

Tasmania's easily cleared land was limited, and after the mid-1830's, when such land could no longer be had to support soaring sheep numbers and to replace land exhausted by continual cropping, pasture damage became widespread and wheatgrowing viable only on larger holdings where pasture could be "rotated" with cropped land. Settlers and capital thereafter by-passed Tasmania for the developing colonies, and large numbers of able bodied men were drawn away.

Purely pastoral districts stagnated, as did most districts in the south, as the south's long cropped wheatlands were limited and broken, and only a limited respite was gained by the shift to the larger unit. In the north natural conditions favoured the combination of wheat and wool on the larger scale and mechanized farming, and districts within paying distance from Launceston emerged as the colony's leading cash cropping districts. At the same time the cattle runs in the outlying districts were broken up into mixed farms, many of which were tenanted. By 1880, however, yields in the north were declining. Fallowing and the use of guano were now possible, but were expensive in relation to the market price. Exports of wheat ceased, some farmers abandoned cropping, and many tenant farmers were forced to shift westward into the pioneer districts. The north, like the south, was unable to retain its population once further expansions was impossible.
and yields declined.

From the late 1830's an increasing number of settlers, mainly those with little or no capital, preferred carving a farm out of the bush to emigration or working for a wage. The North West Coast and, to a lesser degree, the Huon were chosen because of soil, rainfall and water access. High prices for timber enabled settlers to survive until the goldrushes stimulated mainland markets, bringing about the transition from subsistence to commercial farming along the Coast. After the late 1870's mining operations in Tasmania increased local demands for food, fodder and livestock, and led to the development of commercial farming in the inland north east.

By 1914 expansion of farming had virtually ceased in these districts also, as the economics of distance limited the amount of land which could be farmed profitably.

Low prices and declining yields forced greater intensification, but problems were offset by the development of dairying after 1892, which made possible a greater diversification of crops and better rotation. It also provided farmers with regular cash payments and lessened dependence on the returns from any one crop.

Orcharding developed relatively independently of other branches of agriculture. Its rapid growth was a response to the emergence of mainland markets for apples after the gold rushes and the opening up of European markets once steamships with refrigerated holds were used on the London run. Within forty years of the
planting of the first commercial orchards (in the late 1860's) orcharding became the best organized branch of agriculture, and orchards flourished along the Derwent and in the south east, and plantings had been made in the Mersey and Tamar valleys on the North West Coast.

Freight and other costs were high, and compelled orchardists to adopt every means at their disposal to lower costs and improve yields and prices, but being the sole agricultural product with expanding overseas markets it attracted to it enterprising leadership, capital, and governmental support.
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- Northern Van Diemen's Land J. Arrowsmith, 1832. 65 as reproduced by L.S. Bethell, *The Story of Port Dalrymple*, pp. 166-7
- Plan of Launceston Thomas Scott, reproduced by Bethell, *ibid*, pp. 70-1 68
Introduction

This is an attempt to tell a long, complex story within the framework of a Master of Arts thesis. Complexity is due to the diversity in farm type, primarily the product of varying natural conditions, but the length is due to a decision by the writer to commence the narrative at a much earlier point of time than was originally intended, despite the risks this would incur. The reason for this decision was that published interpretations of the situation in the earlier years were found to be unacceptable. As interpretation of developments in later years was necessarily affected, if not determined, by interpretation of earlier developments, it was felt that a fresh approach to the earlier period had to be made and the validity of interpretations ascertained. A further factor supporting this decision was that it was felt that the longer perspective would minimize the risk of distorting Tasmania's economic and social history, as might have occurred were the narrative to commence at, say, 1870 through emphasis on farming in the timbered regions then opening up at the expense of the significance of the "established" districts to the pattern of development.

For these reasons the first section of this study is in the nature of an introduction, a discussion of the pastoral and agricultural situation in the 1840's in order to establish the framework within which subsequent changes occurred. Development prior to 1840 has been incorporated into this section, in some aspects more fully than in others. The pastoral industry,
for example, developed extremely rapidly, and by 1840 farming practice and business management were relatively sophisticated, the land's full stocking capacity was nearly reached, and in many districts the existing stage of full exploitation revealed within it regressive features such as overstocking and pasture damage. So rapid and so full a development demanded relatively full treatment.

It proved more difficult to establish the agricultural situation in the 1840's. Where the account and interpretation provided by secondary sources were consistent with the apparent facts, these have been used, but where the account and the facts differed, more space has been given to the topic and the treatment differs somewhat. The first section of this study is therefore perhaps somewhat different to the remaining sections. It is intended as an introductory section and it is hoped it will be treated as such.

No attempt has been made to provide a social history of the farming communities other than to draw attention to regional variation and the broadest of demographic trends. This was felt to be a topic in its own right, and one requiring a lavish amount of time for adequate treatment. Rather, the approach has been to restrict treatment to the more purely practical aspects of farming in order to provide a context for the social historian and, in the conclusion, to suggest some areas which are most notably in need of examination by the social historian.

I am indebted to many people for their assistance and advice, but my thanks must especially go, for counsel
and encouragement, to Dr. Roe and Mr. Marsee of the History Department, and to Mr. Ken Dallas, who succeeded in imparting to me a little of his own great understanding of the practical years.
SECTION A

Farming in Tasmania
before 1850

UTAS
Chapter 1.

Tasmania: Landforms, Rainfall and Soil Type.
SECTION A.

Ch. 1. Tasmania: Landform, Rainfall and Soil Type.

Tasmania lies in the winter rainfall region but, being near the boundary, receives a considerable proportion of its rain outside the winter months. In this respect, Tasmania is similar to New Zealand, parts of South America and the United Kingdom. The western and south western parts of the island consist of mountain and low mountain land forms lying athwart the prevailing westerly winds. Rainfall is heaviest in these regions and ranges from 50 to 60 inches on the coast to annual falls of 90 to 120 inches, with a Tasmanian maximum of 144 inches to Lake Margaret. This heavily timbered region is not suitable for agriculture. (1)

These mountains create a rainshadow over the Midlands, the region with the lowest annual average rainfall - 18 to 25 inches. Here the terrain falls back from mountain landform to high plateau (the Central Plateau) where winter conditions are harsh and soils of the high moor type. They consist of accumulations of peat intermingled in a complex of skeletal soils and areas of bare rock and boulders. Lakes and mountain tarns are common features. This land is suitable only for summer grazing. Below 1,500 feet land is hilly with slopes of 10° to 25°. Much of this is good grazing land and the river valleys are

(1) This brief summary is derived from the Regional Planning Atlas, Economic Resources of Tasmania, 3rd. edition, published by the Directorate of Industrial Development, Hobart, maps 2-5 with texts.
fertile. There is also a strip of undulating land some 10 to 15 miles wide extending from Campbell Town to Kempton in the Green Ponds district and there are other small areas of undulating land with slopes of 3° to 10°. The climate here is subhumid in character and broken brown earth podzol soils are found. These soils are generally brown in the surface horizons and neutral to slightly acid in reaction. They include red-brown earths which contain lime in the subsoil.

In the South East the shadowing effect of the mountains is not as great and parts are well exposed to the south-westerly winds. Rainfall in the vicinity of Hobart and along the Derwent Valley is generally 20 inches to 30 inches, but on the Tasman Peninsula on the East Coast the rainfall rises to 40 inches. Further south into the mountain region rainfall is much heavier but along the D'Entrecasteaux Channel, which is slightly shadowed, rainfall ranges from 30 inches to 40 inches. Landform is mostly hilly, rising from about 300 feet along the Derwent and associated river valleys to about 1,500 feet. Here terrain is closely associated with low mountain land form. There are also patches of undulating landform, notably at Swansea in the East and at Sorell.

Soil type in the south is very broken. High land tends to moor soils similar to those of the central highlands. Soil is mostly podzol, as is characteristic of Tasmania, but there are also groups of brown soils and black
soils where leaching is restricted. These soils are heavy
textured with lime in the subsoil and are very fertile.
The principal area in the south is around the estuary of the
Derwent River north of Pittwater and lies within the Sorell,
Richmond and Brighton districts. The largest area of all-
luvial soils in Tasmania lies along the middle reaches of
the Derwent River. Small areas of alluvial soils are
also to be found along many other rivers.

Landform is mostly hilly in the north below the high
plateau but there is an undulating stretch extending from
Deloraine in the west to Evandale, south east of Launces-
ton. This very fertile strip is casually referred to as
the northern plains, although the plains themselves are
limited to a small area around Westbury and Cressy in the
Longford district. Rainfall varies from 27 inches at the
mouth of the Tamar to 37.1 inches at Deloraine on the
fringe of the undulating land. It is heavier further west
and decreases inland to 20 inches to 25 inches on the
northern border of the midlands. Podzol soils are varied
by outcrops of brown soils, chiefly north of Launceston,
and black soils south of Launceston. The black soils
mainly fall in the north western section of the Evandale
(Morven) district. Near Deloraine there is an area of
depth of from 15 to 30 miles from Smithton to the West
Coast. Much of it is swamp. Along the coast Smithton to a depth of from 10 to 20 miles is a stretch of low plateau landform intersected by rivers, which is perhaps the most fertile area in Tasmania. Rainfall varies from 35 to 40 inches near the coast to over 70 inches on the mountains inland fringing the central highlands. The coastal strip is noted for its deep red loam soils which are also known as volcanic basaltic or chocolate soils.

The North East consists of mountain and high plateau, hilly landforms and a limited amount of undulating land around St. Marys, which narrows to a strip along the South Esk between Fingal and Avoca and joins the undulating land of the north. There is a strip of sand-broken, shifting dunes—of little use for agriculture along the North East Coast where rainfall is below 30 inches, but rainfall elsewhere is over 30 inches, and increases to 60 inches on the mountains. Most of the land is normal podzol. Around Gould's Country, under dense forest conditions, podzol soils have an unusually deep accumulation of organic matter. Broken outcrops of red loam (chocolate) soil occur, in particular around Scottsdale and Ringarooma.
Chapter 11

Settlement and Land Legislation before 1850
Ch. 11. Settlement and Land Legislation before 1850.

In the first decade of settlement agriculture and stock raising were encouraged to ensure self-sufficiency in basic foodstuffs for the infant settlements. Land was granted and agricultural requirements and livestock were supplied from the Commissariat Stores.

Cropping was restricted to the rich alluvial river flats which were relatively easy to clear and had easy access to Hobart and Launceston along the navigable rivers. The availability of rich, easily cleared land within practicable distance from the market gave farmers the advantage over their New South Wales counterparts. Lieut. J. Oxley reported in 1810 of the land in the vicinity of Launceston:

The North Esk is navigable for Boats at any time of Tide to about eight Miles from Launceston, and, at high water, Boats of almost any size can proceed at least four Miles further. The Country between the North and South Esks, which in some places are only 6 Miles apart, is Beautiful beyond description. The soil is a deep rich loam, yielding a most abundant return to the labours of the Industrious Husbandman; the Country here comparatively thinly Wooded, being in consequence so easily cleared, that in Many places the Settler would have 100 Acres fit for Cultivation in the same time or even less period than it would require to Clear 20 Acres at the principal Agricultural settlement in New South Wales...

The Settlers have universally chosen their land adjoining the Rivers, owing to the convenience of Water Carriage, and the Grounds being in a great measure unencumbered with Wood.............(1)

(1) Historical Records of Australia, 111, Vol.1. pp 260-261

Sheep and cattle raising was stimulated by the Commissariat's demand for meat. As flocks and herds increased, settlements extended back along the Derwent, Clyde, Jorden and Coal Rivers in the South and the North and South Esks in the North, wherever poa grass plains were found. These natural pastures had come into existence where frost incidence controlled the regrowth of timber on land which the aborigines had fired. Cottages were pitched along the river fronts where alluvial flats provided ground for tillage. By 1820 cattle grazed as far as the Quamby Plains near the site of future Westbury. (1)

After 1820 attention was given to woolgrowing and grazing extended. Within a decade scattered settlements joined the northern and southern parts of the island. All the best land apart from that in the timbered regions was soon occupied although much occupation was informal. By 1832 grazing had extended to the Dairy Plains beyond the site of future Deloraine, on the grasslands very fringe. (2)

Most of the land formally alienated before 1832 was alienated in grants. These were between 320 and 2,650 acres in size after 1824 and they carried a quit rent of 5 per cent on the value of the land. Quit rents on land granted before 1824 were not collected as the amount was


(2) J. Arrowsmith's map of Northern Van Diemen's Land (London 1832). See Sec. A., Ch. V.
too small to repay the trouble of collection. In 1824 it did not exceed £400 for both colonies (1) and payment was deferred for seven years. A clause requiring the cultivation of one twentieth of the land granted, in operation since 1820, had been abandoned in 1822 but the new regulations of 1824 required one half the value of the land to be spent on improvements and a convict labourer had to be maintained for every hundred acres granted. Land was not to be sold for five years after the grant was received. (2) In 1826 the convict clause was adjusted to allow landholders who spent five times the value of their land on improvements with an abatement of quit rents or a new purchase at half price. (3) The following year the convict clause was withdrawn and settlers were required to have £500 capital for every square mile claimed. (4) Settlers had no difficulty in turning the capital clause to their advantage. One method employed was described in the Land Commissioners’ Journals:

A Merchant gives a check on the Bank for a Sum of Money, (and for which a percentage is sometimes paid) but before the check can be presented at the Bank, he takes special care to go to the Cashier and advertise him of his having given it, but on no account to pay it. The newly arrived Settler presents his Schedule, he

(2) Ibid., p.137.
(3) Ibid., p.130, p.158.
(4) Ibid., p.138.
gets credit for the money he is supposed to have in the Bank, and he obtains a grant of perhaps one or two thousand acres, whereas, was the truth known, instead of being possessed of any bona fide property, the investment he has brought out is merely on commission. His Excellency may suppose drawn picture but His Excellency may rest assured it occurs daily. (1)

A Land Board was set up in 1828 in an attempt to enforce the regulations. Those seeking grants had to have a minimum of £500 capital or the equivalent in stock and conditions of residence, cultivation and improvement were imposed. The need for these terms in view of the rapid occupation of the limited amount of easily cleared land may be seen from the following:

Mr. D. Lord has, by Grants and Purchases obtained Two thousand one hundred acres, for which he has to pay but about Forty Shillings a year Quiet Rent .... The only improvement he makes on all these farms is one miserable Log Hut upon William's hundred acre grant (.) He does not cut one Tree, he makes no Fences, save enclosing about five or six acres, he employs no more Men than suffice to keep his Sheep together, the Cattle being allowed to roam a distance of about eighteen or twenty Miles .... (2)

The attempt was not successful. The capital clause was easily circumvented, and although it was stipulated that if the required improvements were not made after seven years land was to be forfeited, grants once made could not be supervised.

A system for the sale of Crown Land was set up in 1825 which permitted the sale of up to fifteen square miles in


(2) Ibid., p.52. Entry of 25 April, 1827.
three square mile lots at an average valuation for each parish. Few sales of Crown Land were made while grants were easy to obtain and the settler felt that his grazing land was secure. Grazing land was usually at the rear of grants along river frontages. However, much land was sold privately, thus facilitating the accumulation of land by the wealthy. The absorption of small farms by large estates was a well established trend by 1820 and this trend continued.

Men who have been for a length of time in the Colony have bought land as far as their means will allow them, finding that it is the source of all Wealth in this, as well as in every other country .... Riches, no matter by whom possessed or how acquired ensure Respect and Honors .... the consequence is that those who have had the means have purchased land at all risks. Richard Dry, who was sent from Ireland for his political opinions, has about twelve thousand acres in his possession, nearly all by purchase. David Gibson is also a rich Proprietor, Lackey, Kimberley, The Stanfields, Triffiths', Stynes and Troy, that notorious fellow Field, The Kearney's, Cassidy, the Abels', have all purchased and are doing so daily. (1)

One in five or six of the Norfolk Islanders who originally settled the Norfolk Plains with small holdings did well. The successful were generally those who were married and had children. They bought out their neighbours over the years. (2) No suggestion can be gained from Arrowsmith's map of a host of small holders in the north by the

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(1) Ibid., p.53. Entry of 25 May, 1827.
early 1830's.(1) In the Clyde Valley, which is typical of the Midlands, small landholders sold out in the 1820's and the 1830's and took employment as farm labourers.(2) A few of the smaller lots were retained to conceal stolen cattle and sheep.(3) The Clyde Company, however, leased small pastoral farms for which rent was paid in wool.(4) There are few specialized studies of Southern districts but general evidence suggests that this trend also occurred in the South.

R.M. Hartwell used the statistical category of "professionals, merchants and landed proprietors" to obtain an average size for holdings. He estimated the number of rural landholders by subtracting the number of Hobart and Launceston residents in this category. By dividing the amount of land alienated by this figure he concluded that the average size of holdings by 1850 was 3,500 acres.(5)

As this estimate overlooks the multiple business role of most prominent and many less prominent colonists,

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(1) See Sec. A., Ch. V. See also L.S. Bethell's account (op. cit., pp.182-5) of principal estates in the north. This account gives a high coverage of those shown on the 1832 map.


(3) Ibid., p.122.

(4) Ibid.

whether residing on their estates or in the towns, this average is probably too high. It does, however, indicate the concentration of land ownership. In 1842 there were 1,846 persons classified as professionals, merchants and landed proprietors, in 1848 only 1,502. The business crisis of the 1840's contributed to the decline in numbers.

The Ripon Regulation, which came into force in 1832, brought the system of land grants to an end. Land was thereafter sold by public auction at 5/- per acre at first, at 12/- per acre in 1838 and after 1844 at 21 per acre. The effect of the new policy on land alienation was limited in Tasmania as there was little new land of any worth left until economic changes in the 1850's gave value to the timbered districts. As early as 1826 settlers were reported to be leaving the island because all the best land was occupied.(1) In 1834 in his Dispatches, Governor Arthur commented that a capitalist immigrating with the intention of establishing himself on one hundred acres of waste land found, to his surprise, that there was no waste land to be had.(2) In the same year Grey suggested migration to Port Phillip as virtually the sole prospect for immigrants of little capital.(3) Settlers crossed to Port

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Phillip not only because of the high cost of land but because no fresh pasture land was to be had.

Nearly one half of the land alienated by 1849 was alienated in grants before 1832 although nearly 540,000 acres were sold after 1832 and much more was alienated by lease in the 1840's. Sales were highest in 1837 and 1839 and were very low after 1843.

TABLE 1. **Land Alienation Prior to 1850.**

<table>
<thead>
<tr>
<th>Period Prior to 1850</th>
<th>Grants</th>
<th>Sales</th>
<th>Leases</th>
<th>Total Alienation</th>
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<tr>
<td>to 1832</td>
<td>1,974,754</td>
<td>101,992</td>
<td>c200,000</td>
<td>c2,276,746</td>
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<tr>
<td>1832-38</td>
<td>148,938</td>
<td>207,532</td>
<td>c200,000</td>
<td>c556,470</td>
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<tr>
<td>1838-43</td>
<td>32,783</td>
<td>306,023</td>
<td>c200,000</td>
<td>c538,806</td>
</tr>
<tr>
<td>1843-49</td>
<td>-</td>
<td>24,060</td>
<td>c1,500,000</td>
<td>c1,524,060</td>
</tr>
<tr>
<td>Total</td>
<td>2,165,475</td>
<td>639,607</td>
<td>c1,500,000</td>
<td>c4,396,082</td>
</tr>
</tbody>
</table>

At least some of the land shown as alienated after 1832 was land already granted. Some claims had been proven before the Board but left unenrolled at the Registry of Deeds to avoid payment of quit rents. They were therefore legally and statistically unalienated although the land had been farmed for twenty or thirty years.(2) Land sales in the late 1830's in the Clyde Valley were largely by owners requiring a title to their land in order to sell out before departing for Port Phillip. (3) It seems probable that this also occurred in other districts. In some cases farmers, after a number of years of high wool prices

(3) Ibid., p.89.
consolidated their tenure by purchase. Low wool and agricultural prices in the 1840's brought this trend of consolidation by purchase to a temporary halt and the cheaper system of leasehold was utilized to secure land to which the occupier had no formal claim. A small amount of land on the timbered North West Coast was also alienated in the 1840's.

The leasing of land was not new in Tasmania but this system of securing tenure was not widely used until the 1840's. At first "tickets of occupation" were issued as a very casual form of leasehold but after 1828 these were replaced by formal leasing on a tender basis. Minimum rental was £1 per 100 acres and leases were for twelve months, renewable from year to year. In 1828 leases brought in £1,100. After 1828 the amount fell as leases thereafter were paid retrospectively. Often only the first payment was made but occupation continued. (1) Leasing by tender was abandoned in 1833. A settler would obtain a lot on which a dwelling was built, then

...avail himself as a matter of course of all the unoccupied Crown Land in the neighbourhood for the pasturage of his sheep ... in several instances two or more settlers ... agreed to divide the Crown property in their neighbourhood amongst themselves ...(2)

In 1843 the tender system was reinstated and payments were required in advance at £5 for all lots under 500 acres

(1) G.O. 33/96 Denison to Grey, 8 January, 1850, pp.95-110, Archives Office of Tasmania.

(2) G.O. 33/34 Denison to Grey, 5 July, 1848, pp.449-51, Archives Office of Tasmania.
and £1 per 100 acres for larger lots. This diminished the security of unauthorized occupation and formal leasing extended. Small leases around access points, water holes and springs were often used to secure the surrounding land. (1)

The formalization of occupation was further encouraged in 1847 by regulations which fixed the fee for 500 to 5,000 acre lots at £1 per 100 acres with licenses renewable yearly for ten years. Land could be resumed at three months notice but compensation for improvements (building and fences) was guaranteed. At this time leases also spread around the Lake district. These provided summer grazing for holdings further down the valley where land dried out in summer. (2) Transhumance was necessitated by the large increase in flock numbers but did not represent any real extension of settlement.

S.H. Roberts, in his *History of Australian Land Settlement*, and R.M. Hartwell have concluded that the 1840's, if poor in land sales, were a period of extension of occupation through the leasing system. (3) Such a conclusion should be treated with caution. P. Wessing's study of the Clyde Valley, part of which constitutes the "New Country" of which Roberts makes much, has established that

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in this district the effects of the 1843 and 1847 leasing regulations were not to extend occupation but to formalize the tenure of long occupied land, and this conclusion appears true of other districts. Grazing had extended to the limits of the grass plateau by the mid-1830's, if not earlier, and there is no statistical evidence (admittedly open to error) to suggest sheep numbers in outer counties of the far west and south west. Occupation was not pushed beyond Lake St. Clair "to make contact with the Van Diemen's Land Company" in the North West. (1) This land is dense rain-forest.

The 1840's were years of transition from extensive occupation to a more intensive system of farming accompanied by consolidation of tenure. This was a consequence of the total occupation of available grasslands which was complete by the early 1830's if not before. In 1820 land sold for 5/- to 7/6 per acre. By 1850 improved pasture land was worth 30/- to 40/- per acre and agricultural land was worth £4 per acre. (2) This increase in land value reflected the lack of fresh land available for extensive farming as much as the effects of change in policy in land alienation.

(2) Ibid., p.33.
The 1840's were years of transition from extensive occupation to a more intensive system of farming accompanied by consolidation of tenure. This was a consequence of the total occupation of available grasslands, which was complete by the early 1830's if not before. In 1820 land sold for 5/- to 7/6d per acre. By 1850 improved pasture land was worth 30/- to 40/- per acre and agricultural land was worth £4 per acre. (1) This increase in land value reflected the lack of fresh land available for extensive exploitation and the transition from extensive occupation to more intensive farming as much as the effects of change in policy in land alienation.

(1) Ibid., p.33.
Chapter 111

The Development of the Pastoral Industry before 1850
Tasmania's first flocks were derived from stock allocated to settlers from the Government stockyards. These 'native' sheep were ungainly animals in which the Teeswater strain predominated. (1) Sheep and cattle received the most cursory attention and grazed unenclosed on the natural pastures of unlocated lands. There were no fences before 1820 and breeding was promiscuous, lambing uncontrolled. (2)

It was reported in 1819 that there were 47,000 sheep in the possession of settlers who arrived free and 125,000 owned by ex-convicts. (3) No reliance can be placed on the strict accuracy of these early figures, but they do suggest an extremely large sheep population for a community of 4,411 people. New South Wales had only 65,369 sheep. (4) Mutton prices were depressed and there was little room for profitable expansion.

During the 1820's some flock owners followed the example of a few New South Wales wool-growers and made a determined effort

(2) Ibid. See also Hartwell, Ec. Hist. of V.D.L. pp.107-110.
(4) Ibid.
of their stock. Until then most wool was discarded although some was sold to the commissariat at 3d. per pound for stuffing mattresses. (1) Governor Sorell distributed three hundred ram lambs from MacArthur's improved Merino flocks among settlers (2) and wealthy pastoralists imported Saxon Merinos from Germany and Merinos, Leicesters and other breeds from England. The Rosedale stud near Campbell Town was founded with Saxon Merinos imported in 1823 and 1825. The Kenilworth stud was formed from sheep imported from Germany in 1829 and 1831. These sheep were also the basis of the Winton, St. Johnstone, Valleyfield and other flocks. (3)

It was found that Merinos thrived in the Midlands where pastures were not too lush and sheep were free of the blowfly and foot-rot. In the North and South rainfall was heavier and Leicesters found favour in the 1820's. (4) As flocks were improved Leicesters became the predominant breed in these districts. The Leicester is a dual purpose type and in the vicinity of Hobart and Launceston was valuable for mutton as well as for wool. Southdowns were to be found at the


(2) Glblin, R.W., The Early History of Tasmania., (Melbourne 1939), ii, 297.


Cressy Establishment and among John Batman's improved flocks(1) and hardy Cotswolds grazed the Van Diemen's Land Company's land in the Surrey and Hampshire Hills. This company originally intended to run Saxon Merinos there but harsh conditions forced the switch to Cotswolds.

The breeding out of the 'native' strain took many years. Many settlers lacked the means, others were prejudiced against improved breeds, especially the Merino, which was thought to be prone to scab.(2) By 1850, however, the 'native' stock was very largely bred out and improved flocks were general, as the quantity and quality of wool exported indicated.

Capital invested in breed improvement required further investment for its protection. Fences, all but non-existent in 1820,(3) were essential. Fence types varied.(4) There were the deadwood fences, where branches of felled timber were pulled in and intertwined. There were also post and rail, chock and log, dry stone fences and dog leg type fences. Some settlers considered that fencing with heavy logs was cheaper than the post and rail as it aided clearing and such fences

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(1) Bethell, The Story of Port Dalrymple, p.69.
(2) Journals of the Land Commissioners, pp.84-85. Entry of 30 May, 1828.
(3) Bigge, Report, p.25.
lasted, it was claimed, forty or fifty years "whereas the split stuff Fence only remains fifteen years." (1) However, the cost and quality of the post and rail depended on the timber available on the farm. Much gum timber is not fit for splitting and the post and rail takes time and some skill to erect. Stone wall fences were built where stone was available.

Enclosure occasionally caused friction between neighbours in the 1820's. An uncooperative or absentee neighbour was expensive to the owner of the improved flocks if the latter was to protect his investment from the rams of his neighbour's unimproved Bengal and Teeswater flocks.

Let His Excellency conceive the hardship and annoyance of a bona fide settler to be obliged to undergo all the expense of fencing out a bad Neighbour, and to see the lazy Boor, laughing in his sleeve, at his Farm being improved and made valuable to him, while he is lounging about, smoking his Pipe, drinking his Rum, and carousing among his drunken companions. (2)

Enclosure was made compulsory by legislation in 1835. Most of Tasmania's pastoral land was occupied by that time and growing flocks forced enclosure. Some check had also to be placed on the large landholders' wild herds which were eating out their neighbours to the advantage of the monopolist. (3)

As fences extended breeding and lambing were controlled

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(2) Ibid., pp. 84-5. Entry of 30 May, 1828.

(3) Ibid., p. 38. Entry of 5 December, 1826.
and only the best rams used for propagation. The large flock of the early days, often numbering up to five thousand sheep, was broken into smaller flocks, generally of six hundred to a thousand sheep in the care of two shepherds. (1) Numbers, of course, varied. With more fencing fewer shepherds were required and H.M. Hull reported in 1859, when fencing was relatively extensive, that one shepherd was employed to two thousand sheep. (2) Where there was no fencing in the 1820's and 1830's more shepherds were used for improved flocks, which were folded at night with brushwood fences. If the flock was well tended a present was given to the shepherd and the promise of this induced him to take close care of his flock.

The English woollen industry expanded in the first half of the nineteenth century but sheep numbers in new wool producing countries increased more rapidly than the demand. The London price trend, therefore, was a declining one as may be seen from the following table, although the trend as shown in the table is somewhat distorted as the table commences in 1828 in the middle of the 1826-1833 trough.

### TABLE 2.

<table>
<thead>
<tr>
<th>Year</th>
<th>Price (d.)</th>
<th>Price Index</th>
<th>Year</th>
<th>Price (d.)</th>
<th>Price Index</th>
</tr>
</thead>
<tbody>
<tr>
<td>1828</td>
<td>10</td>
<td>206</td>
<td>1839</td>
<td>12(\frac{3}{4})</td>
<td>139</td>
</tr>
<tr>
<td>1829</td>
<td>9(\frac{1}{4})</td>
<td>192</td>
<td>1840</td>
<td>14(\frac{3}{4})</td>
<td>145</td>
</tr>
<tr>
<td>1830</td>
<td>7</td>
<td>213</td>
<td>1841</td>
<td>15(\frac{1}{2})</td>
<td>135</td>
</tr>
<tr>
<td>1831</td>
<td>10(\frac{1}{4})</td>
<td>195</td>
<td>1842</td>
<td>14</td>
<td>125</td>
</tr>
<tr>
<td>1832</td>
<td>15(\frac{3}{4})</td>
<td>168</td>
<td>1843</td>
<td>11</td>
<td>113</td>
</tr>
<tr>
<td>1833</td>
<td>9(\frac{3}{4})</td>
<td>167</td>
<td>1844</td>
<td>9</td>
<td>118</td>
</tr>
<tr>
<td>1834</td>
<td>-</td>
<td>180</td>
<td>1845</td>
<td>11(\frac{3}{4})</td>
<td>123</td>
</tr>
<tr>
<td>1835</td>
<td>14</td>
<td>176</td>
<td>1846</td>
<td>12(\frac{1}{4})</td>
<td>110</td>
</tr>
<tr>
<td>1836</td>
<td>14</td>
<td>167</td>
<td>1847</td>
<td>11(\frac{3}{4})</td>
<td>98</td>
</tr>
<tr>
<td>1837</td>
<td>16(\frac{3}{4})</td>
<td>140</td>
<td>1848</td>
<td>11(\frac{3}{4})</td>
<td>86</td>
</tr>
<tr>
<td>1838</td>
<td>12(\frac{1}{2})</td>
<td>146</td>
<td>1849</td>
<td>9(\frac{1}{4})</td>
<td>92</td>
</tr>
</tbody>
</table>

The 1826-1833 trough was not felt by Tasmanian pastoralists. Until at least the late 1830's the increasing quality of Tasmanian and other Australian wool countered the London price trend. In 1824 Tasmanian wool was worth 3d. to 6d. per pound but by the mid-1830's it could command 1/6d. to 2/6d. In 1831 the best Tasmanian wool was worth 3/4d. per pound. The Australian average was 1/1d. This

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(2) Fenton, J. A History of Tasmania (Launceston, 1884), p.113.
advantage was exhausted by the early 1840's when low wool prices seriously affected Tasmanian pastoralists.

While farming methods became increasingly sophisticated the business facilities upon which the producer depended also developed. In the 1820's the woolgrower sold to the local merchant. In the 1830's consignment became popular although it was not as general in Tasmania as in New South Wales, where the division between large pastoralists and agriculturalists was fairly clear cut. Tasmanian flocks ranged from many thousands on the largest estates (40,000 to 70,000 sheep in 1859) to a few hundred on small mixed holdings. Wool from small farms lacked the specialized washing, sorting and packing techniques adopted on larger holdings and where the unimproved strain was marked was not worth consigning. Demand for colonial wools on the London market before 1870 was concentrated on the merino as the tweed industry, which utilized long staple wool, was adequately supplied by its traditional sources. Farmers who sold locally to a merchant received well below the London price because, until the cable (1872) provided immediate information as to prices, the trade was a highly speculative one.

In 1834 a Tasmanian auctioneer advertised that local wool sales would take place, but there is no record of this having occurred. (1) Little Tasmanian wool appeared at the

Sydney and Melbourne auctions which acquired some importance in the 1840's. (1) In 1848 only £881 worth of wool was exported to British colonies. The rest of the clip, valued at £191,353, was exported direct to England.

Wool not consigned to England on the growers behalf was sold to local merchants, providing them with useful sterling funds. Merchants both consigned and purchased. R.M. Hartwell has commented that the apparent variety of purchasers and consignees "hides a concentration of marketing power. Most Van Diemen's Land wool was handled by a few colonial houses, in particular Kemp and Co of Hobart, and Henty and Co. of Launceston, who shipped respectively to Donaldson, Wilkinson & Co., and to Buckley's of London." (2) In 1843-4 Henty's handled half of all the wool exported from Launceston. (3)

The consignment system facilitated the import of manufactured goods from England. London agents remitted the surplus after sales in such goods as the pastoralist might require and the profitability of the wool cheque could be seen in the luxury of the homes, carriages and clothing of the wealthy. For some the bark hut was transformed into a

(3) Ibid., *Colonial Times*, 16 November, 1844.
gracious dwelling. Murray's Review denounced the outbreak of "gigmantry", the "system of expensive establishment which the delirium of forced and unnatural profits brought with it .... certain germs of insolvency." (1)

Stephen Adey's letter to John Leake in 1836 offering his services as consignment agent outlined the process of consignment. He spoke of his 'long and intimate knowledge of the Wool Trade and ... acquaintance with most of the principal manufacturers both in the North and West of England" as necessary recommendations.

On getting the wool shipped either in Hobart Town or Launceston one Bill of Lading and the Invoice (the numbers and marks of the Bales, and their weights) must be transmitted by you to the Post Office for the mail going by the same ship, a copy of which last and another Bill of Lading can be sent to the Directors of the Derwent Bank, together with the Bills which you draw on me against the consignment, who will negotiate them for you at the Exchange of the Day. It will in general not be prudent to draw for more than 2/3rd. or at any rate 3/4ths. of the amount of the consignment estimated by the current prices of the Colony, and the Bills will be drawn at 60 days sight.

The surplus of the sales can be remitted, if you wish, in any goods you may require from England or shall be immediately paid into the Bankers of the Derwent Bank, the Directors of which, on receiving their advices, will honour your checks for the same at Hobart Town.

The Commission for purchase will be 2½% and the same on the Sales with only the actual change incurred on each. (2)

(1) Murray's Review, 19 December, 1844.
(2) Stephen Adey to John Leake, 30 Oct., 1836. Leake Family Papers, Reports on the Historical Manuscripts Of Tasmania, History Department, University of Tasmania, (Hobart, 1964), pp.74-75.
In the 1840's banks handled consignment, although how widely cannot be estimated as shipping lists showed only the names of the agents. (1) With the exception of the Derwent, and to a lesser degree other local banks, banking institutions were chary of settlers' bills, despite the Liens on wool and Mortgages on Stock Act of 1843, which recognized wool and stock as legal security on loans. (2) This measure was made necessary by the drop in wool prices following a period of heavy investment. Even after 1843 most banks preferred not to accept liens direct from the grower. They preferred a second party to act as guarantor. This was generally the merchant, with whom the grower was already involved.

As early as the 1820's many farmers had stocked heavily with no regard to preserving their pastures. The Land Commissioner commented that settlers had "yet to learn what is so universally known at home, that overstocking land is ruin(;) provided they have quantity here, they seem altogether indifferent as to the quality." (3) Referring to good sheep walk hear Bagdad made barren by overstocking he said: "to make money ... (is) ... the only desideratum." (4)

(2) Ibid, pp.116-8.
(3) Journals of the Land Commissioners, p.20. Entry of 17 August, 1826.
(4) Ibid., p.7. Entry of 30 May, 1826.
High wool prices in the 1830's and livestock exports to Port Phillip and South Australia did nothing to foster a spirit of conservation among graziers. Between 1841 and 1851 Tasmanian sheep numbers almost doubled. T.A. Coghlan has pointed out that in 1838 Van Diemen's Land, with 1,214,000 sheep and 75,000 cattle was almost fully stocked. "Allowing for large stock the demand on the pastures was equivalent to 1 sheep to 1\(\frac{1}{2}\) acres." This was a heavy tax when land was unfenced, uncleared, and sheep required shepherding and cattle tending.\(^{(1)}\)

By the early 1840's pasture damage was widespread. Tasmania's natural pastures tend to be thin and have little sod. They are therefore susceptible to overstocking and damage from weather extremities. Frost incidence is widespread and where frost damage occurs regrowth is retarded. Natural pastures did not provide adequate winter feed for increasing flocks. During the late 1830's and 1840's a considerable acreage was laid down in English pastures, primarily for fat stock. Sown pastures were mainly white clover and rye grass but trefoil, red clover, meadow fescue, sweet vernal and lucerne were also sown.\(^{(2)}\) The increase in sheep numbers and even more rapid increase in sown pastures may be seen from the table below. Cattle numbers stagnated


\(^{(2)}\) Widowson, Present State of V.D.L., p.84.
after enclosure. Figures to the nearest one hundred were:

**TABLE 3.**

Sheep and Cattle Numbers and Acreage in English Grasses, 1828, 1838, 1848 and 1850. (1)

<table>
<thead>
<tr>
<th>Year</th>
<th>Sheep Numbers</th>
<th>Cattle Numbers</th>
<th>English Grasses Acreage</th>
</tr>
</thead>
<tbody>
<tr>
<td>1828</td>
<td>553,700</td>
<td>87,500</td>
<td>5,000</td>
</tr>
<tr>
<td>1838</td>
<td>1,214,500</td>
<td>75,100</td>
<td>17,200</td>
</tr>
<tr>
<td>1848</td>
<td>1,753,000</td>
<td>85,500</td>
<td>49,300</td>
</tr>
<tr>
<td>1850</td>
<td>1,822,300</td>
<td>82,800</td>
<td></td>
</tr>
</tbody>
</table>

The greatest acreage in sown pastures was in the North. The Morven, Longford and Westbury districts contained more than half Tasmania's acreage in sown pastures. It was also the leading cattle raising region. Westbury, with over 20 per cent of the colony's cattle had only Longford's acreage in sown pasture but had a heavier rainfall. Until the late 1830's Westbury, on the western fringe of the northern plains, consisted of extensive cattle runs but in the 1840's some of the runs were broken up and the good soil and rainfall were utilized for mixed farming. (2) The Morven and Longford districts, nearer to Launceston, were developed more fully earlier.

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(1) All figures unless otherwise stated are from the published government statistics of the years given.

(2) See Sec. 1, Ch. V.
TABLE 4.
The Northern Plains: Sheep and Cattle Numbers and
Acreage: In English Grasses, 1838 and 1848.

<table>
<thead>
<tr>
<th></th>
<th>Acreage in English Grasses</th>
<th>Number of Sheep</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1838</td>
<td>1848</td>
</tr>
<tr>
<td>Morven</td>
<td>1,800</td>
<td>4,900</td>
</tr>
<tr>
<td>Norfolk Pl.</td>
<td>3,200</td>
<td></td>
</tr>
<tr>
<td>Longford</td>
<td></td>
<td>11,000</td>
</tr>
<tr>
<td>Westbury</td>
<td>1,100</td>
<td>6,200</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>Number of Cattle</th>
<th>Acreage granted</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1838</td>
<td>1848</td>
</tr>
<tr>
<td>Morven</td>
<td>5,000</td>
<td>5,000</td>
</tr>
<tr>
<td>Norfolk Pl.</td>
<td>7,000</td>
<td></td>
</tr>
<tr>
<td>Longford</td>
<td>8,000</td>
<td></td>
</tr>
<tr>
<td>Westbury</td>
<td>15,000</td>
<td>19,000</td>
</tr>
</tbody>
</table>

The acreage granted has been shown for comparison, but affords little measure of carrying capacity as Morven and Westbury were timbered beyond the limits of the grasslands.

Farmers in the northern plains districts had the advantage over fat stock producers in the south. Good soils in the north were more extensive and less broken than in the south and rainfall increased to 40 inches on the western fringe of the poa grass plains at Deloraine. Rainfall in most of the south (outside the timbered region) is under 30 inches, in places under 20 inches. In the early 1840's southern farmers experienced the effect of the cheap land
and better pastures in New South Wales. Sheep and cattle imported from New South Wales monopolized the southern meat markets and many farmers who had to provide supplementary fodder for fat stock could not compete. (1) Livestock imports reached a peak in the depression year of 1843 when their total value was £52,669. They decreased thereafter, dropping to a value of £27,098 in 1848.

In the 1840's wool prices also dropped. The quantity of wool exported in 1841 was only 75 per cent of that exported in 1849 but was worth 21 per cent more. Prices rose a little in 1849, saving from ruin many pastoralists whose land was heavily encumbered. Even so, wool exports in 1851 were worth £5,000 less than in 1841, while 1,800,000 pounds more wool were exported.

TABLE 5.

<table>
<thead>
<tr>
<th>Year</th>
<th>No. of Sheep</th>
<th>lbs. wool exported</th>
<th>£ wool exported</th>
</tr>
</thead>
<tbody>
<tr>
<td>1816</td>
<td>20,501</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1821</td>
<td>182,468</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1822</td>
<td>n.a.</td>
<td>147,840</td>
<td>3,917</td>
</tr>
<tr>
<td>1828</td>
<td>553,698</td>
<td></td>
<td>22,072</td>
</tr>
<tr>
<td>1836</td>
<td>906,813</td>
<td>2,920,500</td>
<td>171,009</td>
</tr>
</tbody>
</table>

(1) The Colonial Times, 29 November, 1842. The "Domestic Intelligence" column.
TABLE 5. (Continued)

<table>
<thead>
<tr>
<th>Year</th>
<th>No. of Sheep</th>
<th>Lbs. wool exported</th>
<th>£ wool exported</th>
</tr>
</thead>
<tbody>
<tr>
<td>1841</td>
<td>1,167,700</td>
<td>3,968,100</td>
<td>254,850</td>
</tr>
<tr>
<td>1846</td>
<td>1,313,600</td>
<td>4,082,700</td>
<td>213,522</td>
</tr>
<tr>
<td>1849</td>
<td>1,712,300</td>
<td>5,274,300</td>
<td>202,300</td>
</tr>
<tr>
<td>1851</td>
<td>2,213,400</td>
<td>5,783,700</td>
<td>249,953</td>
</tr>
</tbody>
</table>

The quantity of wool exported per sheep also declined in these years, making more difficult the farmer's struggle against falling prices. By relating the quantity of wool exported to the sheep numbers of the previous year an average fleece weight may be obtained. This shows that in 1835 the average fleece weight was 3.5 pounds, in 1845 3.3 pounds. By 1853 the average weight had dropped to 2.3 pounds. This decrease was partly due to overstocking. In the late 1840's, when all care was required for overgrown flocks and overstocked pastures, labour was in short supply. (1) The insolvency of some proprietors, especially in the south (2) must also have promoted the running down of pastures.

Fleece weights also dropped because low prices stimulated greater attention to cleansing the wool with hot water. Water temperature was controlled and special soaps and sodas used. Well cleansed wool was worth more and freight

(1) See Sec. 1, Ch. IV.

(2) See following, also Sec. 1, Ch. V.
was cheaper. Two 80 gallon boilers were kept at a temperature of $120^\circ$ for scouring. The wool, having been first soaked in a soaking bath, was drained, teased and then scoured. After scouring it was placed on drying cloths twice a day, teased well each time, then finally rolled up. This took three men, one at the soak tank, one at the scouring tank while a third attended the boilers, carried wool to the scourers and performed any other incidental task. (1)

When labour was scarce and wages high the profit from scouring was marginal. The cost of labour often determined whether wool was scoured or not. James Scott, writing to his brother in 1850, said he had reduced the weight of the sixty two bales he had despatched by one third by scouring. However, despite the saving in freight and bales the price had to be proportionally higher to be economic. In 1852 he was unsure whether to scour as scouring cost £1 per week in labour. Shearing had cost him £1 per 100 sheep that year and in any case the sheep wash and boilers had been swept away in a flood. In 1855 he was still considering leaving off the hot water wash as it paid no more than the labour. He estimated that wages for shearing, washing and carriage costs would cost him nearly £200 that year. (2) In dry

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(2) Ibid.
seasons also, hot water washing tended to diminish.

Two estimates sent from John Leake to the Governor, Sir William Denison, show the costs of grazing on purchased and leased properties in 1849. (1)

Calculation on 20,000 Sheep upon a Purchased Estate of 40,000 acres of good land in Van Diemen's Land.

<table>
<thead>
<tr>
<th>Description</th>
<th>Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>20,000 Sheep valued at 8/- each</td>
<td>£8,000</td>
</tr>
<tr>
<td>40,000 Acres Land at 25/- per acre</td>
<td>£50,000</td>
</tr>
<tr>
<td>Buildings - House, sheep-washes etc.</td>
<td>£2,000</td>
</tr>
<tr>
<td>Total</td>
<td>£62,000</td>
</tr>
</tbody>
</table>

Interest on Capital or Rent £4,200

<table>
<thead>
<tr>
<th>Item</th>
<th>Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wages</td>
<td></td>
</tr>
<tr>
<td>10 Shepherds at £16 per annum</td>
<td>160</td>
</tr>
<tr>
<td>1 Principal Shepherd</td>
<td>80</td>
</tr>
<tr>
<td>5 Hut keepers &amp; cooks £12</td>
<td>60</td>
</tr>
<tr>
<td>Annual repairs fences gates</td>
<td>150</td>
</tr>
<tr>
<td>Sheep dressing £10 per 1000</td>
<td>200</td>
</tr>
<tr>
<td>200 Wool bags</td>
<td>55</td>
</tr>
<tr>
<td>Packing at 2/6 per bale</td>
<td>25</td>
</tr>
<tr>
<td>Shearing at 10/- per 1000</td>
<td>100</td>
</tr>
<tr>
<td>Rations 20 men £13 per annum</td>
<td>260</td>
</tr>
<tr>
<td>Travelling expenses for manager</td>
<td>100</td>
</tr>
<tr>
<td>Cartage 27 Tons wool at 50/- per ton to the Shipping Port</td>
<td>67.10</td>
</tr>
</tbody>
</table>

£1,257.10

£5,457.10

£5,460

20,000 Sheep at £273 per 1000

Calculation on 20,000 Sheep fed on Land rented of the Govt. at £1 per 100 Acres - a good and bad - supposed to require four acres to a sheep.

Rent 80,000 acres at £1 per 100 acres £800

Interest on value of sheep 8,000 at 7% 560

<table>
<thead>
<tr>
<th>Item</th>
<th>Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>15 Shepherds at £16</td>
<td>240</td>
</tr>
<tr>
<td>1 Principal Shepherd</td>
<td>80</td>
</tr>
<tr>
<td>10 Hutkeepers and cooks</td>
<td>120</td>
</tr>
<tr>
<td>Men at fencing</td>
<td>200</td>
</tr>
<tr>
<td>Sheep dressing</td>
<td>200</td>
</tr>
</tbody>
</table>

(1) John Leake to Sir William Denison, 1849, Leake Family Papers, Reports on Hist. MSS of Tas., pp. 74-75.
Wool bags
Packing
Shearing
Rations
Travel and expenses
Cartage
Roads assessment & Taxes?
if in the Bothwell District

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>55</td>
<td>25</td>
</tr>
<tr>
<td>100</td>
<td>260</td>
</tr>
<tr>
<td>100</td>
<td>67.10</td>
</tr>
<tr>
<td>1,477.10</td>
<td>2,807.10</td>
</tr>
</tbody>
</table>

20,000 sheep at £142 per 1,000
2,840

Low wool prices were keenly felt in the 1840's as the drop coincided with the virtual loss of the wheat export market. At the same time Tasmania was still being drained of capital, skill and labour lost to Port Phillip. Recuperation was handicapped by Tasmania's inability to attract foreign capital, which went to the growing colonies. (1) Much land had been purchased privately as well as from the Government during the boom years of the 1830's, at inflated prices. While profits were high, high purchase prices and interest rates (10 to 15 per cent and sometimes more) were not felt. In the recession of the 1840's banks foreclosed on mortgages. Many producers were hard pressed and some were bankrupted. At a forced sale of livestock belonging to the Van Diemen's Land Company, bloodhorses went for £6, good draught horses for £8, Durham cattle for £3 and Saxon and Negretti merinos for less than the value of their fleece (2)

(1) See also:- Coghlan, Labour and Industry, Vol.1, pp.500-2
       Dallas, K., "Transportation and the Colonial Income",
       Australian and New Zealand Historical Studies, Vol.3
       p.297 ff.

(2) Bethell, Story of Port Dalrymple, p.180.
The writer attempted a crude survey of the bankruptcy records in an attempt to ascertain to what degree pastoralists and agriculturalists were affected. However, it soon became apparent that more intensive research was required as records do not state the occupation and place of residence of the insolvent or his creditors and many individuals involved were engaged in a variety of economic activities. For example, the Archers at Longford were affected not in their capacity as pastoralists but as bankers (Archers, Gilles and Co. Bank). The writer retained the impression that pastoralists were less affected than general accounts suggest.

P. Wessing's study of Central Tasmania bears out this conclusion. Here, as in all pastoral districts, land was obtained largely by grant before 1832. There was heavy investment in improvements such as fencing but apparently no more than the family could afford. Farmers in this district who were well established by the mid-1830's invested in Port Phillip but reinvested profits in the original Tasmanian estate (as occurred in the Campbell Town district and possibly elsewhere). Although some land in the Midlands was sold by those departing from Tasmania, there was no indication of much insolvency among these pastoralists in the 1840's. (3)

(1) Interview with P. Wessing.
(2) Hist. of Campbell Town, The Campbell Town Municipal Council, publ., p. 68.
(3) Interview with P. Wessing.
The rural region most affected by bankruptcy was the south. A sample study of the Brighton district suggested that it was the bankruptcy of key men in the district who were merchants as well as landholders, and possibly wider speculators, that resulted in insolvency of other interests, apparently purely landed, both owner and tenant. Primary producers were largely under the control of merchants and bankers. Loss of income from wool and wheat exports, however, still left the alternative market, the Commissariat, without which there would have been many more insolvencies in the south. (1) Despite high interest rates, low wool and agricultural prices, insolvencies in the 1840's were less characteristic of landed than business interests.

Chapter iv

Rural Labour
Labour shortage was a recurrent problem for Tasmanian farmers. Until the 1840's farmers were almost entirely dependent on convict labour, the supply of which was determined by government policy and the rate of transportation from England. Shortage of labour stimulated an interest in the late 1820's in farm machinery, and even caused some suspension of agriculture in 1830 until the situation was relieved by the arrival of new transportees. (1)

In the 1840's the shortage of labour was an extremely warm topic. In November, 1839 the assignment system was brought to an end and replaced by the probation system, by which convicts were placed in gangs for a period before being released for private service in country districts at the low wage of £9 per annum. For a short time convict labour was not available. The dislocation of agriculture resulting was so great that the government was forced to continue assignment in the interior for twelve months. (2) Wheat acreage expanded in the interior in response to the high prices in 1840-1841 as would have been impossible had labour not been available. The labour shortage may have contributed to the comparatively small response to high prices in the south. (3)

(2) Ibid., p.77.
(3) See Sec. 1, Ch. V.
Boom prices for wheat in 1840-1841 were immediately followed by years in which imported wheat monopolized the Sydney markets, the local meat markets were lost to mainland exporters and wool prices were depressed. Landowners wrestled to meet high interest rates on mortgaged properties, many of which had been purchased at inflated prices. Labour shortages at this critical time worsened the depression. In the colonial press the issue was sharply stated in its political overtones; proceeds from land sales at the high price were intended to ensure a sufficient supply of labour and the government had not honoured this commitment. The colonists felt cheated. The landed interest was threatened by insolvency, and it was bitter. (1)

It was a general complaint that convicts from probation gangs ("ticket of leave" men or probationers) made worse labourers than convicts under the assignment system. The experience of working in gangs with other convicts tended to produce attitudes in employees which were disliked by the employers. The assignee, usually straight from the ship, remained a longer term with his employer. The employer's recommendation was indispensable for any remission of sentence and it was claimed that this possibility encouraged diligence on the part of the worker. Experience in the

(1) The Colonial Times, 14 March, 1842, editorial, et. al.
gangs taught the probationer to do as little as possible. (1) "The prisoners assigned from the probation gangs are worse than if taken from the ships on their arrival (had their)... knowledge ... of labour is radically bad." (2) It was claimed that their manner was indolent and that they possessed a "busybody desire of association" typical of congregated criminals under guard. (3) A master who was not used to authority had trouble with his servants. Difficulties were greatest where convicts were assigned to exconvicts and, apparently in some cases, to ticket of leave holders. (4)

Convicts were allocated as farm labourers regardless of how well suited they were to this kind of work. Only 20 per cent had been employed as farm labourers before transportation. (5) They worked a ten hour day (apart from meals) which was much the same as working hours in England. They were normally well fed and housed and therefore in good physical condition. Leisure, according to one report, was used "for smoking, occasionally reading or amusing themselves in a desultory way ... often roaming abroad


(2) The Colonial Times, 3 Jan., 1843.

(3) Ibid.


without permission and sometimes committing depredations on their master's property or that of his neighbours." (1)

Much of the criticism of convict labour was not objective. Convict labour, assignee or the £9 probationer, was cheap labour. Where and when farming paid there were probably few complaints. The Midlands and North relied more heavily on convict labour than the south where there was a higher proportion of "currency lads", yet it was the south that stagnated. (2) James Fenton in Bush Life in Tasmania was warm in his commendation of convict employees, especially assignees. To their cheap labour he owed his survival. Fenton brought in land on the timbered North West Coast in the 1840's, when agricultural prices were very depressed.

... Never since my experience of the quiet, manly, good-tempered, hard working convicts under the old assignment system have I known such valuable servants. One of my men was all bone and sinew. He used to work until I had to remonstrate with him, and declare that he would kill himself ... he lived to get out his father, to buy a farm of his own near West Tamar, to marry an educated lady, and to be highly respected as a good honest farmer ... Many good farm servants - better than any I have seen since - used to be sent out for seven years for mere trifles .... Extreme poverty in England and Ireland often compelled the peasants to pilfer in order to save their families from starvation, and these men made excellent servants. Often the masters got out their families, with profit to both parties ... Very few were sent to Van Diemen's Land from the rural districts who went so far as to


(2) See Table 7.
steal a sheep; they were hanged in those days for sheep stealing. The future of the convict in Tasmania all depended on the circumstances in which he was placed. If he fell into the hands of a humane settler the chances were that he would rise and regain his social position; but there were brutal masters who took delight in getting their assigned servants flogged. (1)

Women convicts were poorly regarded and were seldom engaged in the farm house and yards in the manner in which women servants were employed in England. There was little or no dairying so no dairymaid was needed. However, their moral character was partly responsible. John Leake's wife, writing to a friend in England, commented that the "quiet and morality" of the children were so influenced by the language and behaviour of female servants that many settlers preferred to employ only men about the house. She herself had had only one female convict, and then only for four months. A free woman was brought out by the family but she, "as is usual, left after a few months." (2) In a colony in which men far out-numbered women it was not easy to retain women servants. As late as 1847 there were less than 22,000 women in the colony. There were 46,000 men.

Free labour before 1830 was largely exconvict in origin and was not highly regarded either. "Wheat, the Staff of


life, is the standard for Wages in other Countries. Here Rum is the Alpha and Omega."(1) Many free immigrants arrived from England and Western Australia between 1834 and 1837 but they preferred piece work in the towns to rural employment(2) especially after the passing of the Apprentices and Servants Laws Consolidation Act of 1840. This gave employers the right to discharge but made servants liable to forfeiture of wages and gaol for absenteeism or leaving service.

TABLE 6.
Arrivals, Free men and Convicts 1820-1849.(3)

<table>
<thead>
<tr>
<th>Year</th>
<th>Immigration</th>
<th>Transportation</th>
</tr>
</thead>
<tbody>
<tr>
<td>1820-9</td>
<td>4,000</td>
<td>11,172</td>
</tr>
<tr>
<td>1830-9</td>
<td>11,350</td>
<td>20,160</td>
</tr>
<tr>
<td>1840-9</td>
<td>4,359</td>
<td>25,731</td>
</tr>
<tr>
<td></td>
<td>19,709</td>
<td>57,063</td>
</tr>
</tbody>
</table>

On the recommendation of a committee appointed in 1841 by Sir John Franklin, a grant was made to assist immigration. This decision was unwise as money was badly needed for roads and bridges and there were clear signs of a depression ahead. Furthermore, probationers were soon to be released.

(3) Hartwell, Ec. Hist of V.D.L., p.68, Table 2.
It was felt, however, that labour shortages kept wages too high for profitable farming and for this reason agriculture was retarded. (1) That year the first passholders were released for private service in rural districts and 2,448 free immigrants arrived within a few years. The labour market was glutted. This was the ideal condition for profitable agriculture but unemployment was initially so great that there was a short lived fear of pauperism and increased criminality. (2)

The glut was short lived. Farming in Tasmania could only be profitable for the farmer if the wages he paid were low and men departed, attracted by the higher wages offered on the mainland. In 1846 the press reported that the "best of our labour (is) still leaving the colony by every available opportunity". (3) The colony was stagnating and could not hold its free labour. In 1845 and 1846 the Geelong and Portland Bay Immigration Society took out a thousand ex-convicts from Tasmania and between 1847 and 1849 three thousand more were taken out by individuals. (4)

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(1) *Colonial Times*, 23 Nov., 1841.


(3) *Hobart Town Courier*, 8 Aug., 1846.

migrants also departed. Their loss represented not only a loss of labour but also of capital. Wages were therefore high again in the late 1840's and as a result some farmers resorted to boiling down to reduce sheep numbers (1) and agricultural machinery was more widely used. (2)

Table 7 shows the proportion of free, currency, ex-convict and convict males in each region. The rural districts, especially the North, Midlands and East relied heavily on convict labour. In the Midlands, a pastoral region, 45 per cent of the male population was convict, in the East, a pastoral region with some cash cropping, nearly 43 per cent, and in the North, pastoral and agricultural, 40 per cent. There was a higher proportion of "currency lads" in the South and only 35 per cent of the male population was convict. Hobart, Launceston and the South absorbed nearly 75 per cent of the native born. Convicts obtained under the assignment system (private service) were retained and probationers (ticket of leave holders) taken on only where required because of increasing crop and stock numbers. The South and East were stagnating and there was little need for new men.

The convict force on the heavily wooded North West Coast was somewhat below the Tasmanian average. This was a region of small farmers who relied heavily on their young families to perform farm chores. (1) There was an exceptionally high ratio of children to adults in the late 1840's (over 1:3) in this region. Youth born in the colony were not particularly attracted to this region but some, together with a larger number of migrants of small means and ex-convicts, chose to better themselves not by emigrating to other states but by moving into the heavily timbered districts where, as their own masters, they gradually cleared their land and made their own small farms.

(1) Fenton, J., Bush Life, p.60.
### TABLE 7. 1847 - Male Population *(1)*

**Status Categories**
- a - free
- b - currency
- c - ex-convict
- d - ticket-of-leave holder
- e - convicts in private service
- d+e - convict labour
- f - % total males excl. Govt. employed

#### A. % Composition of Male Population according to Status and Region.

<table>
<thead>
<tr>
<th></th>
<th>(a)</th>
<th>(b)</th>
<th>(c)</th>
<th>(d)</th>
<th>(e)</th>
<th>(d)+ (e)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Urban</td>
<td>25.7</td>
<td>28.3</td>
<td>22.3</td>
<td>10.0</td>
<td>13.6</td>
<td>23.6</td>
</tr>
<tr>
<td>South</td>
<td>16.3</td>
<td>24.6</td>
<td>23.8</td>
<td>11.2</td>
<td>24.0</td>
<td>35.2</td>
</tr>
<tr>
<td>Midlands</td>
<td>12.2</td>
<td>17.2</td>
<td>25.7</td>
<td>16.3</td>
<td>28.7</td>
<td>45.0</td>
</tr>
<tr>
<td>North</td>
<td>13.2</td>
<td>20.4</td>
<td>26.0</td>
<td>17.7</td>
<td>22.4</td>
<td>40.1</td>
</tr>
<tr>
<td>N.W.</td>
<td>19.6</td>
<td>18.0</td>
<td>26.0</td>
<td>21.2</td>
<td>15.2</td>
<td>36.4</td>
</tr>
<tr>
<td>East average</td>
<td>15.9</td>
<td>19.2</td>
<td>22.3</td>
<td>15.0</td>
<td>27.6</td>
<td>42.6</td>
</tr>
<tr>
<td>rural</td>
<td>15.4</td>
<td>19.9</td>
<td>24.8</td>
<td>16.3</td>
<td>23.6</td>
<td>39.9</td>
</tr>
</tbody>
</table>

#### B. Total Tasmania: Number of males in each category.
- *a* 7,391
- *b* 9,138
- *c* 8,832
- *d* 4,749
- *e* 7,278
- *f* 39,168

#### C. % of Males of each Status Group in each Region.

<table>
<thead>
<tr>
<th>Region</th>
<th>(a)</th>
<th>(b)</th>
<th>(c)</th>
<th>(d)</th>
<th>(e)</th>
<th>(f)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Urban</td>
<td>60.2</td>
<td>53.7</td>
<td>43.8</td>
<td>36.6</td>
<td>32.5</td>
<td>44.3</td>
</tr>
<tr>
<td>South</td>
<td>16.3</td>
<td>20.0</td>
<td>20.0</td>
<td>17.5</td>
<td>24.5</td>
<td>18.9</td>
</tr>
<tr>
<td>Midlands</td>
<td>7.3</td>
<td>8.3</td>
<td>12.8</td>
<td>15.2</td>
<td>17.5</td>
<td>11.3</td>
</tr>
<tr>
<td>North</td>
<td>10.0</td>
<td>12.5</td>
<td>16.5</td>
<td>21.1</td>
<td>17.2</td>
<td>14.3</td>
</tr>
<tr>
<td>N.W.</td>
<td>2.5</td>
<td>1.9</td>
<td>2.8</td>
<td>4.2</td>
<td>2.0</td>
<td>2.4</td>
</tr>
<tr>
<td>East</td>
<td>3.6</td>
<td>3.5</td>
<td>4.2</td>
<td>5.3</td>
<td>6.3</td>
<td>4.3</td>
</tr>
</tbody>
</table>

+ Does not total 100% as 3,738 prisoners were at punishment stations.

**Urban** = Hobart and Launceston districts. These include some farmlands.

**South** = Brighton, New Norfolk, Richmond, Sorell and Prosser's Plains, Southport.

**Midlands** = Bothwell, Campbell Town, Hamilton, Oatlands.

**North** = Longford, Morven, Westbury.

**N.W.** = Horton and Port Sorell.

**East** = Fingal, George Town, Great Swanport.

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*(1) Based on 1847 Census figures.*
Chapter V

Agriculture
Wheat Growing and the Agricultural System.

The common mode of tillage in 1850 was the bullock drawn plough which largely replaced the spade and hoe in the 1820's and the 1830's. The spade and hoe continued to be used on newly broken-in land which was too rough and ill cleared for the use of the plough, and were probably employed on other land where plenty of cheap labour was available. Even in more recent times there have been occasional reports of spade and hoe tillage on farms of a few acres where, in view of the cost of chains and team, the plough would not have paid. (1)

Labour shortage in the 1820's hastened the transition despite some prejudice against the use of the plough. (2) Some farmers considered ploughed soil gave a smaller yield because, as they claimed, the plough merely scratched the soil without loosening it and the trampling of hooves hardened the soil. However, the economy of the swing plough in terms of the quantity of work performed assured the permanence of the change and ploughs and bullocks became more readily available at a price colonists could afford. (3)

(1) Mr. K. Dallas, Dept. of Commerce and Economics, University of Tasmania. Interview. Mr. Dallas referred to subsistence farms on the stony land in the Coal River Valley behind the rich river flats. Such survivals are not uncommon on marginal land.

(2) This prejudice was also found in N.S.W. See Dunsdorf, The Aust. Wheat Growing Industry, p.14

The widespread adoption of the plough is shown by the expansion of oat acreage from 1,600 acres in 1825 to 21,000 acres in 1838. (1)

Horses began to be used as draught animals after 1830 (2) by which time the soil on many farms was well broken-in and easier to plough. However, the change-over was slow. Farmers were reluctant to entrust horses to the often unskilled and not too tender care of convicts (a parallel, perhaps, with the use of mules in countries where slave labour is employed) and the Port Phillip boom kept prices high until the recession of the 1840's.

Sophisticated machinery made an appearance on half a dozen of the more prosperous farms in the 1826-27 season when labour was scarce. The threshing machines were probably Meikle threshers, which had a mechanism for cleaning the grain. Threshers became quite common and were often hired out. (3) A few attempts were also made to develop an efficient reaping machine. The Colonial Times in 1827 referred to a local machine "for the purpose of cutting sward, consisting of six circular knives fixed on an anvil" which aroused much local interest. (4) Although reapers

(1) All figures unless otherwise stated are from the published government statistics for the years given.
(2) Betts, J. An Account of the Colony of Van Diemen's Land (Calcutta, 1830), p.40.
(4) Colonial Times, 14 Sept., 1827.
became more common in the 1840's they were not used extensively before 1850. Their early appearance however, indicates immediate interest and awareness of the value of more sophisticated machinery by at least a few Tasmanian agriculturalists.

Until 1850 reaping machines were still evolving in the hands of their inventors and were exceptional everywhere. The first really successful reaper was invented in Scotland in 1826 by Patrick Bell. The American McCormick machine, put to trial in 1831, was not a commercial success until 1842 when it appeared in an improved form. It was able to reap 175 acres of wheat in less than eight days.(1) The reapers used in Tasmania before 1845, apart from local inventions, must have been Bell reapers. The first McCormick was not imported into Australia until 1852, (2) but by 1854, if not before, Tasmanian farmers were ordering this machine.(3)

In 1845 a local variation of the stripper, which was invented in South Australia in 1843, was in operation and reported to reap 20 acres per day with two horses.(4)

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(2) Ibid., p.64.


(4) Hobart Town Courier, 25 March, 1845.
Even in South Australia the stripper was not extensively used until after 1850, following its improvement by the adoption of Bull's principle which enabled the machine to thresh the crop as well as reap.\(^1\) However, the stripper was never widely used in Tasmania as the Tasmanian climate is too moist for its efficient use.

Most farmers reaped and threshed by hand, hitting out the grain with a flail or treading it out by foot. Sales advertisements in the 1840's for farm machinery seldom listed anything other than ploughs, chains, harrows, carts and perhaps a threshing machine. Occasionally, too, a winnower was listed\(^2\) although farmers throughout Australia were reluctant to use the winnower.\(^3\) The work was too gruelling for men and was considered to be too hard and cruel on horses, then only coming into use for the plough and which were too valuable to be spoiled in this way.

Tasmanian wheat was very susceptible to smut. Farmers tried pickling wheat, using the traditional techniques of salt, seawater and urine until the early 1850's when copper sulphate came into general use throughout Australia.\(^4\)

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\(^1\) Wheelhouse, *Digger Stick to Rotary Hoe*, pp.52-61.
\(^2\) Colonial Times, 6 Dec., 1842 (advertisement).
\(^3\) Wheelhouse *Digger Stick to Rotary Hoe*, p.77.
The wheat crops improved greatly once more carefully selected seed became available. In 1826 Governor Arthur commented:

... There is scarcely such a thing in Van Dieman's Land as a field of one unmixed sort of corn. The consequence is that the crop ripens unequally, is partly lost in the ground, and the flour is inferior, of less quantity than it might otherwise be. Barley, as well as Peas, is very commonly mixed with wheat. (1)

In New South Wales also this was a problem in the 1820's.

By 1850 a clean crop was at least the standard although the standard was not invariably maintained. In 1843 the writer of the Domestic Intelligence column of the Colonial Times commented with surprise on the quantity of wild oats and rubbish mixed with wheat not only on long cultivated but also on newly broken-up land. (2) This occurred shortly after the labour shortage caused by the adoption of the probation system and in a year of low prices. In 1839 wheat sold at a boom price of £1-6-0 per pound; in 1842 it had fallen to 6/6d. per pound, and in 1843 to 3/6d. At 3/6d. per pound the farmer did not cover the cost of production and the greater the attention given to preparing the soil the greater his loss.

The same writer followed on to say that the farmer with the cleanest crops was experimenting with a Welsh

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(2) Colonial Times, 10 January, 1843.
variety, Golden Jersey, a long eared wheat brought in from Wales six years previously by a Broadmarsh grower but apparently not widely known at that time. It yielded 30 bushels per acre at the Hunting Ground. This example of good farming and an exceptional yield in a region not unknown for exhausted soils illustrates the misrepresentation possible by sweeping statements as to the standard of Tasmania's agricultural system. The average yield per acre for wheat for the seven years 1840–4 and 1848–9 was 13.2 bushels. The leading wheat breed was Red Lammas.

There was little rotation or manuring in Tasmania by 1850, although these were standard practices of English high farming. A field was ploughed, harrowed and reaped of the one crop year after year. When diminished yields forced attention to depleted soil fertility the field was abandoned and a new area subjected to the same exhaustive treatment. This system is typical of all new countries where readily cleared land is available and profits are precarious. It was used on England's cleared uplands two thousand years ago. Three course rotation did not evolve until times became more stable and it became necessary to clear heavily wooded forest land.

Historians have generally described the system of agriculture in Tasmania before 1870 in derogatory terms. The chief criticism rests on the absence of rotation and manuring, used tellingly in conjunction with accounts of poverty and exhausted soil. Agricultural depression is
thereby confused with, and largely attributed to a deficient agricultural system. However, the small farmer, particularly the monoculturalist, had to cultivate a paying crop and wheat was the chief marketable product. As long as fresh, easily cleared land was available and reasonably priced manures and a profitable rotation were lacking, the exploitive system was the only economic system. Good virgin soil, especially the alluvial clayey soil favoured by early settlers, withstood repeated cropping for a time at least and the necessity of another system was not immediate. The often repeated stories of fields cropped successfully year after year indicate the resilience of the soil as much as indolence on the part of the farmers. Such a charge is questionable when cheap manure and a paying rotation were lacking. The system became deficient only when the soil was exhausted and new land was no longer available. At that point the monoculturalist became anachronistic and larger mixed farmers absorbed their land.

Even on larger mixed holdings a manuring was not common although a small start was made in the 1840's.

(2) For example, see Melville, Australasia and Prison Discipline (London, 1851) p.260-1. Also Hartwell, op. cit., p.131.
Tasmania's few dairy cows were not stalled at night and horses were not common before mechanization became extensive. Stable manure was very limited. Artificial manure was expensive and it was not until the Australian guano trade developed in the 1850's that the price was less than prohibitive even for the wealthy, although local bonedust became available in the late 1840's. There was one bonedust manufactory in 1849, according to official statistics, two in 1850. These figures would not have shown small crushing machinery at local mills, but such machinery was not common. However, there must have been some. For example, the Amos family at Gala Farm, Opossum Bay, used whalebone from the local beaches and therefore must have had crushing equipment. In 1854, when the soils of most long cropped farms were exhausted, the average yield on this farm was 19 bushels per acre.\(^{(1)}\) However, even scientists knew little of plants' nutritional needs before 1840 when Liebig's work appeared, followed by Lowe's work on phosphates. Commercial manufacture of superphosphates did not begin in England until 1843.\(^{(2)}\) In Tasmania cattle grazed the stubble and this in 1850 still represented the main method of manuring, however incidental.

\(^{(1)}\) A.D.B. article (sic), Amos Papers, University of Tasmania Library, Archives.

The possibility of proper rotation was also limited on mixed holdings. Wheat, oats and barley are no proper rotation and the only practical possibility was turnips where these were required for fodder. Turnip-fed Leicesters were considered a prime beast, but large imports of fat stock discouraged fattening except on good natural pastures in the North. There was no export market for legumes and few were grown. Potatoes were grown close to the market. In the established farming region of the South, not good potato country, the acreage was too small to be significant. Farmers cropped the fields which gave the best yield at the previous harvest; when the yield declined the land was laid down in pastures. However, where plenty of land was available and market organization and demand was slack, no other system was necessary or profitable.

\[\text{The Distribution of Wheat Growing: Farm Type.}\]

R.M. Hartwell considered that as late as 1850 there was a clear-cut division between pastoralist and agriculturalist and that agriculture was pursued on small monoculture holdings by farmers "not only poor in material resources but in ability." Larger landholders disregarded agriculture to concentrate exclusively upon wool-growing. "Agriculture was the Cinderella of the colonial economy
but, unlike Cinderella, it lacked the means of miraculous transformation." (1)

Wheat growing in the south was not profitable in the 1840's except, perhaps, for those holding government contracts, but was no Cinderella. The wheat fields of the south were exploited very early and by 1820 considerable exports had been made. By 1840 all land that could be profitably utilized for wheat growing had been fully exploited and thereafter wheat growing in the south stagnated. By 1850 acreage had declined only a little but with the loss of the meat market, declining yields and low prices, there was no room for profitable expansion. In 1838 nearly 19,000 of Tasmania's 42,000 acres of wheat lay in the Brighton and Richmond districts alone; the south as a whole had 22,000 acres in wheat. In 1848 these two districts had 12,000 acres in wheat, but there was a total of 20,000 acres in the south.

In the North and North West wheat acreage increased from 12,400 acres in 1838 to 34,700 acres in 1848. The most spectacular increase in the North was in the Westbury district. Improved road facilities and the natural process of consolidation of fringe pastoral lands following the early occupation of the grassland plain transformed cattle

runs into mixed farms. In 1838 there were only 671 acres under wheat in Westbury, in 1848 nearly 7,000, a larger acreage than either Brighton or Richmond. In 1848 there was only one flourmill in this district which suggests that this increase in wheat acreage was in response to local human and fat stock demands rather than to demand on the Launceston and export markets. These requirements were met from the Launceston district, Morven and Longford, where the wheat acreage increased from 11,700 acres in 1838 to 24,600 acres in 1848. At the same time sheep numbers in the Launceston, Morven and Norfolk Plains/Longford districts increased from 211,000 in 1838 to 278,000 in 1848. In the south sheep numbers were not as considerable and declined slightly in these years.

In the 1840’s, if not before, the bulk of wheat was no longer grown on smaller farms on which wheat growing represented the major source of income but on farms where wool was the main crop and grain subsidiary. On these estates wheat growing and farming generally were on the larger scale. The northern plains were well suited to the use of machinery and in the late 1840’s, when labour was scarce and wheat prices half those of the 1830’s, wheat growing became increasingly mechanized. The eclipse of the South and growing importance of the North as the agricultural centre may be seen from the table below.
TABLE 8.

Wheat Acreage and Sheep Numbers:
Percentage According to District.

<table>
<thead>
<tr>
<th>District</th>
<th>Wheat Acreage</th>
<th>Sheep Numbers</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1838</td>
<td>1848</td>
</tr>
<tr>
<td>South</td>
<td>52</td>
<td>31</td>
</tr>
<tr>
<td>Mid.</td>
<td>13</td>
<td>9</td>
</tr>
<tr>
<td>North</td>
<td>30</td>
<td>50</td>
</tr>
<tr>
<td>N.W.</td>
<td>N.R.</td>
<td>2</td>
</tr>
<tr>
<td>East</td>
<td>5</td>
<td>8</td>
</tr>
</tbody>
</table>

NR = No return

Owing to this geographical shift in wheatgrowing and the improved system of farming the average wheat yield rose during these years. For the seven years 1829 to 1835 the average yield was 12.4 bushels per acre. During the seven years 1840 to 1844 and 1848 to 1849 the average yield was 13.2 bushels per acre. No figures are available for 1845 to 1847. The average yield rose to over 17 bushels per acre in the six years 1850 to 1856. (1)

Numerically small owner-occupiers of Hartwell's description cannot have been important as there were only 1,846 persons in the whole of Tasmania classified as landed proprietors, merchants and professionals in 1842 and three hundred less (1,502) by 1848. The number of gardeners, stockmen and farm labourers increased from 9,870 to 11,693. Shepherds were a separate category and numbered

879 in 1842, 1,098 in 1848. Even for the south there seems little evidence to suggest many small monoculture holdings in the 1840's. A rough spot survey of the 1842 census records for the Brighton district cautions against R.M. Hartwell's conclusions. For example, in Parish 7, Pontville, there were six men classified purely as shepherds. All were housed in large establishments with a considerable body of agricultural workers. One was housed with 22 persons, 16 being agricultural labourers, a second with 9 agricultural workers, a third with 10, the other three housed and apparently employed along with 10 farm workers. Even in the South by the early 1840's wheat growing occurred on mixed farms. Small monoculturalists farming owned and occupied land in the 1820's and 1830's appear to have been bought out by the early 1840's, if not considerably earlier.

There is no practical evidence to suggest that at any date pastoralists eschewed agriculture to concentrate on woolgrowing where a market could be had. It was always the practice to raise one's own food, including wheat, on pastoral estates some distance from the market. Where transport costs to the market were too high for commercial agriculture (20 miles was a day's journey for horse teams even where roads were good), cartage of unnecessary provisions from the market was too expensive. Wool could stand high costs as it was only carted once a year.

In the Midlands and at Westbury, and probably in all
isolated districts where troops were stationed, farming was mixed in the pioneer days and pastoralists benefited from the market provided by the soldiers stationed to protect the settlers from aborigines and bushrangers. (1) It was the loss of this local market after the rounding up of the aborigines in 1832 that caused pastoralists to abandon some of their crops, rather than the inducement of high wool prices. They could not compete on the urban markets because of transport costs. However, the increase in wheat acreage in 1840-1841 in the Midlands suggests that when wheat prices were exceptionally high (26/- per bushel in 1841 in Hobart) some pastoralists extended their crop acreage. In the Campbell Town district, which is 40 miles from Launceston but has good agricultural soil, there was a 2,000 acre increase in wheat acreage in the 1840-1841 season.

Another point that counters Hartwell's argument even for the 1830's is the fact that much of the land on which wheat-growing paid best, land on the very outskirts of Hobart and Launceston, was owned by large pastoralists and wealthy capitalists. Scott's Plan of Launceston (1832) shows considerable quantities of land on the outskirts owned by such men as Hobler, William Dry, (2) William

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(2) Owner of the large Quamby Estate near Westbury. He commenced farming near Launceston and did not see fit to relinquish this property.
Lawrence (1) and the Archers. (2) William Kearney, locally known as the Squire of Richmond, disposed of or abandoned his pastoral Midlands holdings to concentrate on his mixed farms in the south, which were mainly situated around the Coal River Valley. (3)

To insist, as Hartwell in his chapter on agriculture appears to insist, that all Tasmanian pastoralists were tied to the fortunes of woolgrowing when wool prices were high, is to ignore the mentality of Tasmania's able men. They employed their money-making talents over a wide range of interests. Men such as Lawrence had very active trading and sealing interests. Lawrence was involved in enterprises such as the Cornwall Bank and Tamar Steam Ship Company, and even experimented with the possibilities of grapes and apples. (4) Others, such as William Barns, had brewing interests while William Field had been a publican. The most striking characteristic of the more prominent

(1) His original grant was the Formosa Estate on the Lake River.

(2) Woolmers and Pansanger on the Lake River and South Esk.

(3) This gentleman, besides having holdings near Avoca and 10,000 acres of bushland at Native Corners, owned Laburnum Park (600 acres), Colebrook Dale (1,340 acres), 1,200 acres of the old Carrington Estate in the Coal River valley and Roseneath Farm, Glenorchy.

(4) Bethell, Story of Port Dalrymple, p.132.
landholders was the diversity of their interests and their commercial spirit. They were speculators in an era when most colonial trade and industry was speculative. Such men did not ignore the possibility of skimming the profits from wheatgrowing.

Large landholders within a paying distance from the market had much to gain from combining agriculture with grazing. Fat stock and cash cropping when combined are efficient forms of production. Less of profit from any one item of production, wool, fat stock or cash cropping, was offset by the other items, and cropping was a useful measure on damaged pastures. The mixed farm had the advantage in use of machinery. Machinery and labour could be more economically employed and there was scope for continued exploitive agriculture with the benefit of some casual rotation and manuring. The larger landholders were able to obtain government contracts, which provided the most sure profits from agriculture in the 1840's, and they were also better able to bargain with the merchants if they did not have trading interests of their own, as many did.

In so far as monoculture wheatgrowing persisted until 1850 it must have been almost entirely on tenanted land. No official figures exist relating to tenant farming and general evidence suggests the need of caution against any sweeping statements concerning it. Tenant farming was
very general as early as the 1820's(1) and remained a common feature of the rural scene. The status of tenant farmers varied. While absentee ownership tended to promote the single lease of the whole estate, the recurrent shortage of farm labour in the 1840's and 1850's caused many estates with good agricultural soil to be broken up into a number of tenant farms. (2)

In some instances, for example at Northdown, tenants provided labour for the land that was retained, rendering labour and some produce in lieu of rent and in exchange for various necessities. (3) In other instances produce comprised the rent. The Clyde Company leased pastoral land with rent paid in wool. If the amount of wool paid fell below a specified amount when the price of sheep was above 12/6 the deficiency was paid for at the rate of 1/3 per pound; if the price of sheep was below this figure a deduction in the amount of wool due was made. (4) The bitterness with which the timber trader Thomas Drew was remembered on the North West Coast suggests that blatant exploitation was not particularly common. He let in order

(1) Journals of the Land Commissioners, passim.

(2) Northdown, Whiteford Hills, the Quamby Estate are well known examples.

(3) Mr. Thomas, Jr., Northdown, interview.

to get his land cleared and then withdrew the lease. (1) Some farms were let on a clearing or fencing lease with apparent satisfaction to both parties.

The larger lease, for example J. Fenton's lease in the 1840's of 640 acres on the North West Coast, (which he took up after the loss of his own property because of the expense of draining (2)) was very common and many tenants profited. The *Cyclopaedia of Tasmania* (1900) gave the histories of the more prominent residents of each district and although these were accounts of the more successful, it is clear that the position of many tenants was very sound. For example, Daniel Burke, one of the first tenants of the Quamby Estate in 1844, did sufficiently well to lease Extor from J. Field in 1850. He employed a number of men and produced "large quantities of agricultural commodities generally." The larger lease was apparently as common in the South as in the North. Of the 72 dwellings in parishes 1, 5, 6 and 7 in the Brighton district in 1842 only 18 were owner occupied, but the relatively large labour forces housed in many of the remainder suggest a sizeable, or at any rate, no small monoculture lease. For example, of the four dwellings mentioned above as

(2) Ibid, p.46.
housing shepherds and a considerable number of agricultural workers, two appear to have been leased. (1)

By 1850 wheat growing in the south had passed its days of prominence. Expansion ceased after the early 1840's and acreage thereafter stagnated. By 1850 the Launceston to Hobart road, one of the best in Australia, and the Bridgewater causeway across the Derwent were completed, but had no visible effect on wheat growing in the south as it had already been fully exploited. In the North, following the improvement and extension of roads in the 1830's, an increasing acreage of wheat was grown on holdings where sheep raising and wool were the major sources of farm income. The North emerged as Tasmania's leading wheat producer.

Farming was still of the simple pattern with little attention given to rotation or manuring, which were neither possible nor profitable for most farmers. Sufficient land was available for exploitive agriculture on mixed holdings, more especially on the fertile northern plains than in the South where much of the best agricultural land was confined to the alluvial river flats. The small monoculture holding was eliminated as freehold by 1840, although this anachronistic farm type may have persisted on small tenanted farms.

(1) i.e. the owner and the head of the household were not one and the same, and no 'person in charge' is stated.
Other Crops, Farming Products and By-Products.

The only significant crops in 1820 were wheat (9,000 acres), barley and potatoes. Thereafter wheat acreage expanded and other crops became more important, as may be seen from the table below.

TABLE 9.

<table>
<thead>
<tr>
<th>Crop</th>
<th>1828</th>
<th>1838</th>
<th>1848</th>
</tr>
</thead>
<tbody>
<tr>
<td>wheat</td>
<td>20</td>
<td>42</td>
<td>64</td>
</tr>
<tr>
<td>barley</td>
<td>4</td>
<td>13</td>
<td>14</td>
</tr>
<tr>
<td>oats</td>
<td>2</td>
<td>21</td>
<td>29</td>
</tr>
<tr>
<td>English grasses</td>
<td>5</td>
<td>17</td>
<td>49</td>
</tr>
<tr>
<td>turnips</td>
<td>1</td>
<td>9</td>
<td>9</td>
</tr>
<tr>
<td>potatoes</td>
<td>1</td>
<td>3</td>
<td>4</td>
</tr>
</tbody>
</table>

The expansion of wheat growing was in response to both local and export demand. The increase in acreage of other crops was due to the increase in stock numbers, each farmer cultivating according to his needs and the demands of the limited local market. Exports were small. The Port Phillip and South Australia booms were fortuitous and isolated occurrences for Tasmanian farmers and such exports were not of the general pattern. Exports of oats, hay and potatoes, chiefly from northern ports, were small as the mainland market was generally slack and prices were speculative but normally low. J. Fenton, in *Bush Life in Tasmania* attributed the slow development of the North West Coast to inactivity on the Melbourne market. The rich North West Coast soil was particularly well suited to potato growing but prosperity waited on increased demand. None the less, many settlers took up land there in the 1840's.
The problems of the grower are well illustrated in Fenton's account of the sale of a cargo of potatoes he shipped to Melbourne. Within sight of the port he was offered the exceedingly low price of £1 per ton for this cargo by the ship's owner, who was on board. He hesitated, for the offer gave him no return and the port was in sight. Finally he accepted. The buyer, however, could not sell the cargo at any price although he even tried the Adelaide market. (1)

Until 1850 potatoes were grown chiefly for local consumption within easy access to the urban markets. The largest concentration was in the Hobart district where there were 754 acres cultivated in 1848. Over 500 acres were grown at Southport and 400 acres at Richmond for Hobart and the local convict depots. In the north the only sizeable concentration were the 271 acres in the Launceston district and 508 acres in Horton. The Van Diemen's Land Company had contracted in 1844 to buy all the products of their tenants in the Horton district at a fixed price for seven years. Tenants had become heavily in debt by 1844. The contracted price for potatoes was 105/- a ton. They could not be sold for over 15/- a ton and those not sold by the company on the Launceston market at a very great loss were fed to pigs, horses or dumped. (2) The contract ran out in 1851 when the gold rushes sent prices rocketing and potatoes were quoted at £30 a ton.

(1) Fenton, Bush Life, p.55.
(2) Ibid., pp.58-9.
Turnips were grown for fodder. Richmond, which supplied the Hobart meat market and the 6,000 prisoners within the district, had the largest turnip acreage (over 1,000 acres). This acreage shows the value of Commissariat contracts when the private market was depressed. In 1838 Oatlands had had a similar acreage, but this dropped by 300 acres in 1848. English grasses in Oatlands, however, increased from 417 to 1,115 acres. Livestock imported from New South Wales made fat stock raising unprofitable for some farmers after 1843 and the cultivation of root crops declined accordingly.

Butter and cheese were made only for local needs and large quantities of Irish butter were imported, retailing at about 2/6 per pound. (1) Southern Tasmania is not dairying country as the rainfall is low (under 30 inches and parts under 20 inches) and Tasmania's best dairying land, which is along the North West Coast and in the Ringarooma/Scottsdale area in the North East was heavily forested before 1850. Most farmers kept a few cows for their own needs and sold the surplus to the local storekeeper or other local buyers. In the flush period butter was potted in glazed earthen ware crocks or wooden tubs and kept till winter, by which time it was fairly rancid.

Fruit growing was also slow developing as there was little demand. The Huon district was opened up in the 1840's and orchards were planted as a part of subsistence agriculture. The limited local demand was met by surplus from

(1) Bethell, The Story of Port Dalrymple, p. 117.
the house and farm orchard to be found on most properties, urban and rural.

Barley and hop acreage were determined by the fortunes of local brewing and distilling. Distillation had a brief but vivid history. It was made official in 1822 and within four years six or seven 'large' distilleries were in operation. Customs duties imposed in 1826 operated to the disadvantage of local distillers. Then, in 1838 distilling was prohibited. It was found that the principal ingredient was imported sugar rather than colonial grain.(1) Illicit stills operated on some estates in the 1820's to attract and hold labourers.

Colonial brewing expanded as the population grew. By 1851 there were fifty breweries producing almost enough beer for colonial consumption. The only competition to colonial breweries came from Taylor's Brown Stout and Treble X Ales and Porter, favoured in the harvest season.(2) Several colonial capitalists made their fortunes from brewing or from the taverns which proliferated with the growth of local brewing. Hops were grown successfully at New Norfolk although attempts elsewhere failed. These met most of the demand although small imports continued. In 1848 hops valued at £4,067 were imported (£3,755 from Great

(2) Bethell loc. cit.
Britian) and £788 worth were exported, perhaps in transit. Nearly £22,000 of malt liquor was imported, £4,000 worth exported.

Various by-products of the pastoral industry came on the local market. After 1843 local manufacture of soap proved so successful that by 1850 imports had almost ceased. Candles were also almost entirely of local production and were a very minor export. (1) Bootmakers and saddlers were served by local tanneries, providing an important outlet in the 1840's to pastoralists hard hit by the drop in wool prices or forced to reduce flocks because of labour shortage or pasture damage.

(1) Hartwell, op. cit. p.159f.
Chapter VI

Markets for Agricultural Produce
Agricultural expansion in the 1820’s was mainly in wheat, together with meadow hay and pastures for the rapidly developing pastoral industry. Wheat was an ideal export staple, being virtually non-perishable, not bulky, and a staple foodstuff in constant demand on the Sydney market. Tasmania’s other export staples were wool and whale oil; wheat was the sole agricultural product to meet the above requirements.

Until the 1840’s Tasmania had the advantage over other Australian wheat growing regions. Sydney’s local grain supply was poor and overland transport costs from good wheatlands were uneconomic. Sea freight from Tasmania to Sydney in 1828 was approximately equal to the cost of land carriage from the Hawkesbury, only thirty six miles, (1) where maize was grown as a substitute for wheat. Because of high transport costs no surplus wheat was produced in the interior of New South Wales and there were no reserves against harvest failure. Rust and blight discouraged expansion of wheat growing on the coastal strip despite the cheaper freight rate. Between 1821 and 1854 Australia’s population increased annually more rapidly than the area under wheat.

Tasmania’s wheat trade, however, was not highly organized, partly due to factors such as backloading and the lack of other profitable exports between the colonies. All trade other than that between long established markets of

highly populated countries was essentially speculative in this era and Tasmania was a backwater colony. Profits were made not by the producer but by miller and merchant, who stockpiled and dispatched as a ship was available and the market thought to be profitable.

The speculative nature of the trade was aggravated by the sale of large quantities of cheaply produced foreign wheats on the Sydney market. In 1823, because cheap foreign wheat was available, government policy was changed, the fixed price abandoned and the private market thrown open. The price of wheat dropped by 50 per cent and Governor Arthur was vehement that the fixed price should be reintroduced to preserve the interests of the Tasmanian producer and the future of Tasmania's wheat export trade. (1) However, until the 1839 harvest failure, foreign imports (which were subject to a low duty) were not heavy and mainland wheat growers found the market satisfactory. Nevertheless, wheat prices in 1836 provided a warning. Despite the export boom and the fear of famine in New South Wales, the average Hobart wheat price for 1836 was a low 6/- per bushel. Tasmanian exports appear to have been met from stockpiled grain in this record year of imports of foreign wheat on the Sydney market. (2)


(2) Ibid., p.81.
Competition from foreign wheats on the Sydney market became acute after 1839. Drought on the mainland raised the Tasmanian price to 26/- per bushel. Three merchants formed "a busy knot of monopolists", purchased all the grain they could from small and middle sized growers and exported "vast quantities" to South Australia. (1) High prices did not last as a flood of foreign wheat caused a glut - always a risk in days of slow communication. During 1839 and 1840 the price of wheat on the Sydney market rose from 7/6 to 25/-, fell to 7/-, rose to 15/- and fell again to 5/6. Importers were compelled to dump at any price. In 1843 Valparaiso wheat was being offered at 2/- per bushel and millers preferred to buy imported wheat for 2/6 to 3/- instead of 7/- to 8/- for local wheat or the 15/- that Tasmanian merchants were demanding. (2) Prices in Hobart were correspondingly low. The Commissariat price was, of course, attributed by Tasmanians to the government's "miserable screwing system towards the community generally." (3) The highest price given in 1842 by the Commissariat for high quality grain was slightly under seven shillings. Settlers regarded eight shillings

(1) Colonial Times, 1 October, 1839.
(3) Colonial Times, 29 November, 1842.
a fair standard maximum. (1) The outlook for wheat growing was rightly considered to be gloomy. (2) More attention was given to flour exports, thus cutting transport costs and stimulating milling, but in 1843, 1844 and 1845, years of trough prices, exports of flour also fell off. The value of exports of wheat and flour dropped from £122,600 in 1842 to £90,400 in 1843. In 1844 these exports were valued at £81,800, in 1848, £82,900.

Late in 1842 a proposal was made in Launceston to form a company with an agency in Sydney to provide Sydney with a regular supply of Tasmanian wheat and flour. The local press was enthusiastic, seeing it as a means to put an end to "that system of monopoly and forstalling which, while it has conferred affluence on a few bold speculative individuals, has ruined many and been attended with public injury." (3) Nothing seems to have come of the scheme.

The sale of poor quality wheat and adulterated flour was common in the 1840's. Merchants preferred to purchase cheap grain from small and "middle" growers, (4) whose grain tended to be more mixed than that of the large producers.

(1) Ibid.
(2) Colonial Times, 24 January, 1843.
(3) Colonial Times, 13 December, 1842.
(4) Colonial Times, 1 October, 1839.
who competed for commissariat contracts. High priced Tasmanian flour was sometimes adulterated with poor quality American flour. Tasmanian produce gained a bad reputation and in the 1850's this was held partly responsible for the dropping off of trade. "The dishonesty of a few in this colony", remarked a Mercury columnist in 1858, rendered "this great export as infamous as themselves."(1)

Wheat growing in South Australia developed rapidly in the 1840's and Tasmania faced strong competition on the Sydney market from another Australian producer. Between 1841 and 1842 alone wheat acreage in South Australia increased from 4,700 acres to 15,300 acres, as the Tasmanian press observed with some anxiety.(2) The hard grained South Australian wheat was a better milling wheat than the soft grained Tasmanian, which is better suited for biscuit flour. Possibly the claims made against Tasmanian merchants and millers were overdrawn and the natural deficiencies of Tasmanian flour, made apparent by contrast with South Australian flour, were attributed to adulteration. South Australian clearing costs were cheaper than Tasmanian costs. In 1842 it was estimated that the cost of clearing and preparing the soil for wheat was £2 per acre in South Australia, £10 per acre in Tasmania.(3) The advantages of

(1) Mercury, 30 July, 1858; 3 August, 1858.
(2) Colonial Times, 14 February, 1843.
the stripper — much reduced reaping, threshing and bagging costs — were not felt until the gold rush, when the improved stripper came into wide use in South Australia and permitted large exports of flour and wheat despite the loss of labour to the gold fields.

Some attempt was made to export Tasmanian wheat further afield. There were many handicaps and little prospect of success. Large shipping was not available regularly and wheat did not travel well with wool as wool caused the grain to heat, damaging the quality. A small shipment of 6,000 bushels was made in 1822 to the Cape of Good Hope (1) and in 1827 several vessels were despatched to the Cape, Batavia and Mauritius, but these places were also wheat producers and shipments were purely speculative: "... though there is little prospect of obtaining a good price, the return cargo it is hoped will remunerate the shippers." (2)

In 1833 a small sample of about 20 bushels was exported from Launceston to London (3) and another attempt was made in 1835. Freight and charges were more than £85 per 100 quarters. (4) In 1843 Tasmanian wheat sold for seed in

(3) Hartwell, op. cit., p.135 (footnote).
(4) Dunsdorfs, op. cit., p.80.
London at 6/6 to 7/- a bushel. This was apparently considered satisfactory, netting 4/- to 5/- per bushel. However, if this was satisfactory to the exporter the Tasmanian purchase price was totally uneconomic to the producer. The average Hobart price that year was a singularly depressed 3/6. In the previous year 8/- was considered to be a fair purchase price for good quality wheat. On these prices there was no future for Tasmanian wheat on the London market.

It was hoped Tasmania would benefit from the repeal of the Corn Laws. This hope never materialized. Cheap grain from America and the Baltic made wheat growing on Irish estates unprofitable after 1845 and the world's markets fell to the cheap producers. Tasmanian farming was approaching the intensive stage of development and land was limited, while profits from wheat were made from the virgin prairie land of California and South Australia by extensive agriculture. The gold rushes gave only a brief alleviation to Tasmanian wheat producers.

By 1850 the local wheat market was as important to farmers as the export market. Although wheat acreage expanded after 1820 local population increased more rapidly. E. Dunsdorfs has pointed out that in 1818 the ratio of

(1) Ibid.
(2) Colonial Times, 29 November, 1842.
wheat to population was 5:3 with a 50 per cent surplus for export. (1) In 1828 the ratio was 20:18, 1838 42:46, 1848 65:68. The average wheat yield rose in these years and therefore tended to equalize these ratios, but it is clear that the stimulus to producers was as much increased by local demand as the export trade.

The local market consisted of both private sale and contract supply to the Commissariat. Merchants and millers acted as local dealers and exporters, purchasing largely from small and 'middle' growers. Many were landholders in their own right and absorbed the products of neighbouring small growers and tenants. The role of the local miller as a purchaser seems to have been the outcome of the earlier practice of payment of his services in kind. Larger producers competed for government contracts. The Commissariat was the most profitable market as it eliminated the middleman. In the 1840's, however, government contracts were by tender, a situation particularly favourable to those holding the produce of tenants or their smaller neighbours. The tender system also made it easier for merchants to usurp this outlet.

It was not new for middlemen to supply the Commissariat. In the 1820's and even earlier the stores were to a large degree supplied with wheat already in the hands of the merchants and other middlemen, who obtained wheat from

farmers at reduced prices when the stores could not absorb the supply. Various other factors contributed to this situation. The Commissariat issued receipts of payment which were only called in quarterly. Currency was scarce and most services had to be paid in wheat. As a result farmers became indebted to the merchants, and the merchants' hold on the market deprived the farmer of any advantage from high prices when wheat was in short supply on the mainland. (1)

The importance of the Commissariat in the 1840's as a market for local produce may be appreciated from the following figures. It will be seen that in 1840 Commissariat expenditure for the maintenance of convicts and troops represented less than one quarter Tasmania's total exports. In 1843 it represented more than a half, in 1844 nearly two thirds. The average Hobart wheat price in these years fell from 7/- in 1841 and 6/6 in 1842 to 3/6 in 1843 and 3/3 per bushel in 1844. In 1848 the price rose but remained at a low level (4/2 per bushel.) Wool prices also rose. Even so, as may be seen from the table below, in 1849 Commissariat expenditure was almost two fifths the total value of exports.

(1) See ibid., p.35 f.
TABLE 10.

Commissariat Expenditure and Export Values. 1840 - 1849.

<table>
<thead>
<tr>
<th>Year</th>
<th>Expenditure</th>
<th>Export Value</th>
<th>Total Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>1840</td>
<td>183,729</td>
<td>867,007</td>
<td>1050,736</td>
</tr>
<tr>
<td>1841</td>
<td>188,212</td>
<td>630,501</td>
<td>818,713</td>
</tr>
<tr>
<td>1842</td>
<td>235,345</td>
<td>582,509</td>
<td>817,854</td>
</tr>
<tr>
<td>1843</td>
<td>250,394</td>
<td>439,890</td>
<td>690,284</td>
</tr>
<tr>
<td>1844</td>
<td>298,967</td>
<td>408,799</td>
<td>707,766</td>
</tr>
<tr>
<td>1845</td>
<td>274,585</td>
<td>422,218</td>
<td>696,803</td>
</tr>
<tr>
<td>1846</td>
<td>289,572</td>
<td>582,585</td>
<td>872,157</td>
</tr>
<tr>
<td>1847</td>
<td>293,254</td>
<td>600,876</td>
<td>894,130</td>
</tr>
<tr>
<td>1848</td>
<td>244,577</td>
<td>490,281</td>
<td>734,858</td>
</tr>
<tr>
<td>1849</td>
<td>206,404</td>
<td>558,682</td>
<td>765,086</td>
</tr>
</tbody>
</table>

The private market for goods other than wheat was very limited. Farmers produced their own crop requirements and the urban population was limited. In 1848 the only significant agricultural exports other than wheat were oats, valued at £6,000, fruit and preserved fruit, valued at less than £5,000 and hay, worth £3,200.

In 1849 and 1850 the market was stimulated by the Californian gold rush. Ship after ship departed with cargoes of Tasmanian products. Export figures show cargoes but it is unlikely that the value of agricultural goods and livestock taken on board as provisions were entered, any more than Tasmanian built ships were shown as a value. Most ships were sold or abandoned in San Francisco Bay for lack of a crew. (1) Exports from small coastal jetties were probably not shown either. Export values for 1849 and 1850 must therefore have been higher than those given.

(1) Bethell, *The Story of Port Dalrymple*, p.52.
The official figures show that between 1848 and 1850 exports of timber rose from £20,464 to £55,869, grain, hay, meal and bran rose from £101,588 to £118,444 and jams, fruit and potatoes from £11,041 to £23,535. The Californian gold rush was a prelude to events of the 1850's.
SECTION B

Farming in Tasmania

1850 - 1870
Chapter 1.

The Pastoral Industry 1850 - 1870.
SECTION B. 1850 - 1870.

Ch. 1. The Pastoral Industry 1850-1870.

Yorkshire buyers were the first purchasers of Australian wool at the London sales and in the 1840's they were joined by West of England wool buyers. Interest in German wool slackened as more Australian merino wool became available. (1) However, in the 1860's the supply of wool from the rapidly expanding flocks of the Australian colonies, New Zealand, South Africa and South America began to exceed demand, although prices were kept high in the early 1860's when French buyers appeared on the market following the removal of French tariff restrictions. (2) The average price of wool as quoted by the Tasmanian Government Statistician was 1/9 per pound in 1857, 1/7 in 1860 and 1/7 1/2 in 1861 and 1862. In 1860 wool from one flock, the "three legs", shipped from Hobart Town realised from 2/8 to 4/- per pound with a fleece average of 3/6 per pound. (3)

High prices held until 1866. At the end of 1865 wool was purchased in Hobart at 1/2 to 1/4 and sold in London at 1/7 to 1/10. (4) Prices thereafter fell. The Government

(2) Ibid., p.29.
(3) Mercury, 13 September, 1860, wool report.
Statistician in his 1868 Annual Report commented that in another year Australia alone could supply the whole of the United Kingdom market. Tasmanian wool averaged 1/3½ per pound in 1867-1868 and 1/1 in 1868-1869.

In the 1860's more English buyers appeared at the colonial auctions, (1) which gradually acquired world standing. This greatly benefited the many smaller Tasmanian growers for whom scouring and consignment did not pay. Most sold on the Victorian market. Some wool was sent to New South Wales, but not consistently. At the same time several colonial merchandise and importing concerns began to concentrate exclusively on pastoralists' requirements and the purchase of wool. This Australia-wide development gradually ousted local merchants as purchasers of wool. Dalgety, Moore and Co. commenced operations as purchasers and consigners in Tasmania at the end of 1870 after the rise in wool prices. (2) Macfarlane Bros. and Co., New Wharf, Hobart advertised at the same time as agents for Messrs. Refern, Alexander & Co., London. The first periodic wool sales in Tasmania were held in 1871. Roberts, Stewart & Co., A.G. Webster and Isaac Wright were active but no mainland buyers attended and local wool sales were of

(1) Barnard, The Aust. Wool

(2) 8 December, 1870: "wool, sheepskins - the undersigned (Dalgety, Moore & Co.) are purchasers at full market rates or will make liberal advances on wools..."
little importance. (1)

The sale of Tasmanian wool on the Melbourne market began on a small scale in the 1850's and became quite considerable by the mid-1860's as may be seen from the table below.

Table 11.

<table>
<thead>
<tr>
<th>Year</th>
<th>U.K. 000lbs</th>
<th>Hobart £000</th>
<th>Victoria 000lbs</th>
<th>Victoria £000</th>
</tr>
</thead>
<tbody>
<tr>
<td>1857(a)</td>
<td>197.2</td>
<td>80.8</td>
<td>7.7</td>
<td>4.0</td>
</tr>
<tr>
<td>1866(b)</td>
<td>2,081.4</td>
<td>182.6</td>
<td>321.0</td>
<td>24.4</td>
</tr>
<tr>
<td>1867</td>
<td>2,596.8</td>
<td>217.0</td>
<td>250.0</td>
<td>18.8</td>
</tr>
<tr>
<td>1868</td>
<td>2,534.6</td>
<td>158.4</td>
<td>139.0</td>
<td>8.7</td>
</tr>
<tr>
<td>1869</td>
<td>2,352.4</td>
<td>131.0</td>
<td>170.6</td>
<td>8.2</td>
</tr>
<tr>
<td>1870</td>
<td>1,921.4</td>
<td>102.2</td>
<td>193.2</td>
<td>11.4</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Year</th>
<th>U.K. 000lbs</th>
<th>Hobart £000</th>
<th>Victoria 000lbs</th>
<th>Victoria £000</th>
</tr>
</thead>
<tbody>
<tr>
<td>1857(a)</td>
<td>189.0</td>
<td>128.1</td>
<td>9.7</td>
<td>3.2</td>
</tr>
<tr>
<td>1866(b)</td>
<td>1,774.9</td>
<td>135.3</td>
<td>351.7</td>
<td>26.2</td>
</tr>
<tr>
<td>1867</td>
<td>1,508.6</td>
<td>118.8</td>
<td>381.2</td>
<td>24.3</td>
</tr>
<tr>
<td>1868</td>
<td>3,208.2</td>
<td>213.4</td>
<td>254.7</td>
<td>18.0</td>
</tr>
<tr>
<td>1869</td>
<td>2,518.8</td>
<td>138.2</td>
<td>565.2</td>
<td>25.9</td>
</tr>
<tr>
<td>1870</td>
<td>1,658.8</td>
<td>113.9</td>
<td>373.5</td>
<td>18.9</td>
</tr>
</tbody>
</table>

(a) 1857 Hobart - £270 wool to N.S.W.
(b) 1866 Hobart - 229,500 lbs wool (£16,580) to N.S.W.
1866 Launceston - 6,710 lbs. wool (£325) for S.A.

More wool was exported to Melbourne from the North than the South. This was partly because of Launceston's proximity to Melbourne but also because the bulk of wool from the Merino country passed through Hobart while

(1) Bell, Roberts, Stewart & Co., p.70.
Launceston handled the clips, (mainly Leicester) from the mixed farms of the Northern Plains, together with some Merino from the northern section of the Midlands. Increased sales of Tasmanian wool on the Melbourne market coincided with the virtual end to the import by merchants of manufactured goods direct from England. Merchants imported increasing quantities of goods from other colonies, particularly Victoria. \(^{(1)}\) The number of foreign vessels in Hobart declined from 23 in 1857 to 3 in 1866. (The average number of vessels in Hobart between 1857 and 1861 was 897. Between 1861 and 1866 the average was 720.) However, the main reasons for increased sales of Tasmanian wool in Melbourne in the 1860's were the labour shortage, which made scouring and therefore consignment less profitable, and the benefits of this market for the mixed farmer. Better prices at colonial wool sales directly stimulated wool growing in mixed farm regions.

Wool export figures, although reflecting the increasing sale of wool on the colonial markets, cannot be used to compare quantities sold on the colonial and English markets. The amount of wool shipped which had been washed in hot water or in cold water or shipped in its greasy state varied greatly from year to year. Statistics showing the number of sheep owners who sheared in the grease and washed in warm water commenced in 1870; in that year 49 washed in

warm water, 348 sheared in the grease. The following year 248 washed in warm water, 521 sheared in the grease. The number washing in cold water is not given. Owners washed in cold water when prices were low and consigned where profitable. Dry weather discouraged washing, for example in 1868 in southern Tasmania. This was the only year shown in the table above when exports to the United Kingdom from Hobart were less than those from Launceston. With better prices warm water washing and consignment was the practice. However, some pastoralists may have consigned only the more valuable parts of the fleece and dispatched the ends and broken fleece to Melbourne.

S.H. Roberts, in his History of Australian Land Settlement has described the late 1840's and early 1850's as a period in which leaseholders pushed west. (1) However, much if not most of the land apparently opened up in the 1840's and 1850's had long been occupied and the importance of the 1847, 1851 and 1858 legislation to the pastoral industry appears overstressed. P.H. Wessing in her study of the Clyde Valley, Central Midlands, gave close attention to land alienation in this district, which forms a section of the "New Country" stressed by Roberts. The problems Mrs. Wessing found in this study of a relatively small part

of Tasmania provided a warning to others and therefore no attempt is made to discuss the effects of legislation on pastoral alienation other than in this region which has already been subjected to intensive study. The situation in the Clyde Valley may, however, be taken as typical of the situation in the grassland regions.

All agricultural land in this district was alienated long before 1850 and the only pastoral lands remaining were high dolerite hilltops and summer grazing in the lake country for runs lower down the valley which dried out badly in summer. (1) Purchase in the 1850's was a safeguard against speculators' obtaining small pieces of land for resale at high prices. (2) However, there seems little evidence to support the claim that ill considered, legislation impoverished pastoralists. (3) In the late 1850's and 1860's the purchase of previously leased land followed a period of capital accumulation. Wool prices had held high since the late 1840's and wages in the 1860's were lower than those paid during the gold rushes. Pastoralists were generally prosperous during these years. "Sheep farming in the best countries and on clean runs is a very

(2) Ibid.
profitable investiture of capital returning as much as 25 per cent" stated Hull in 1858. Net profits per sheep were 2/6 to 4/6 per annum. (1) Purchase occurred in the 1860's less because of insecurity of tenure than because pastoralists had the means to do so. Many farmers were merely formalizing possession which should have been attended to long before, and some had several decades of dodged payments behind them. Purchasers were older residents; they bought on credit and many titles did not issue until the 1880's. (2)

As a result of the purchase of the more valuable land previously held by leasehold, rental returns for Crown Lands dropped from an average of £1/5/6½ per 100 acres in 1853 to an average of 12/6 per 100 acres in 1866. The best land was sold; that which remained was not valuable. Legislation provided no new grasslands and sheep numbers were not increased by it. After 1852 sheep numbers declined.

Climate and forest forbade further extension of grazing. The Van Diemen's Land Company's unfortunate experience in sheep raising on the Surrey and Hampshire Hills illustrated the inevitable failure of sheep raising in adverse natural conditions; (3) while the cost of clearing

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(1) Hull, Forty Years in _Tasmania_ pp.24-25.
(2) Wessing, _op. cit._, p.95.
(3) Roberts, _op. cit._, p.67. A forced switch from Merinos to Cotswolds.
potentially first class pasture land for grazing on the timbered North West Coast was prohibitive even after the introduction of the ringbarking technique in the 1840's. For the first few decades, at least while the value of fat stock was low, land was utilized for intensive cash cropping. Cropping gave the highest return per acre and sheep and cattle were grazed for domestic use only.

The relative distribution of sheep numbers, however, changed somewhat in these years. The more purely pastoral regions, especially the East, declined in importance. The Midlands held 52 per cent of Tasmania's sheep in 1848, 55 per cent in 1864 and only 50 per cent in 1870, while for the East the percentage dropped from 17 per cent in 1848 to 9 per cent in 1864 and 1870. This predominantly Merino country was fully stocked before 1850 despite some extension of fencing in the 1850's. Much of the land is too dry, stony and deficient in certain minerals for sown pastures.

The proportion of Tasmania's sheep in the mixed farming regions of north and south rose from 30 to 40 per cent. Actual decreases in sheep numbers were smaller in these regions. There was an overall increase in sheep numbers in the south, which had only 11 per cent of Tasmania's sheep in 1848 and 18 per cent in 1870. Numbers increased from 189,000 in 1848 to 301,000 in 1864, dropping back to 237,000 by 1870. Northern sheep numbers represented 19 per cent of the total in 1848 and 18 per cent in 1864, but between 1864 and 1870 the decline in numbers (from 316,300
to 298,500) was not as sharp as in the south and in 1870 22 per cent of Tasmania's sheep were in the north.

The initial increase in the south followed the trend from cropping to grazing with the decline of wheat growing. A large acreage of improved pastures was laid down. In the north the swing was from extensive grazing to greater concentration on cash cropping in districts nearer the Launceston market and to mixed farming in the Westbury district.

This development was furthered by the extended use of fencing, partly stimulated by the scarcity of labour in the 1850's. The most common form of fencing remained the post and rail although wire fencing was advertised in 1860. (1) Coghlan has said of the use of fences:

The country will carry one third more sheep, the wool will be longer and sounder, and the fleece as a whole better: the feed will be cleaner and less liable to grass seed: the sheep will increase in size: they will live longer and continue longer profitable; they will be freer of foot rot and other diseases; the expense of working the station will be less than one quarter of what it would be if sheep were shepherded: and finally, the owner will be able to devote the principle part of his time to improving his sheep instead of spending it in attempts to manage a number of shepherds and hutkeepers. (2)

It is apparent from advertisements of farms for sale or lease that in the 1860's a fair degree of fencing was


(2) Coghlan, Wealth and Progress 1900 - 1901, p.584.
standard.

After 1850 Tasmanian producers regained much of their hold on the urban meat markets. The number of sheep imported fell from 58,800 in 1850 to 43,300 in 1860 to 19,300 in 1870. Cattle imports remained high in the 1850's but dropped from 5,800 in 1860 to 1,600 in 1870. Fewer imported beasts appeared on the Launceston market than on the Hobart market. The northern hinterland was better suited to fat stock production. Before 1860 the Fields, who ran one eighth (10,000) of the state's cattle in the Westbury/Deloraine area, annually supplied the market with a thousand head of cattle fattened on grass paddocks. They weighed up to 1,400 pounds. (1)

After the break-up of the Field family's vast estates mixed farming developed rapidly in this region, and large acreages of artificial pastures were laid down. In 1848 Deloraine was part of Westbury, which had only 6,200 acres of "permanent artificial grasses". By 1871 Westbury had 13,400 acres and Deloraine had 9,500 acres. No expansion in acreage in sown pastures occurred closer to Launceston. Longford had 11,000 acres in "permanent artificial pastures' in 1848 and 8,700 acres in 1871 and the Evandale/Morven area showed a similar decline. However, owing to the increase to the west the northern districts had 41 per cent

(1) Hull, Forty Years in Tasmania, p.25.
of the state's total in 1871. For this reason sheep numbers in the north did not decline as rapidly as in the south during these years and although the number of sheep slaughtered in Launceston increased greatly in the 1860's the number of sheep imported remained at a relatively stable low level. No cattle were imported in 1870.

In 1871 the Midlands had 23 per cent of Tasmania's acreage in artificial grasses and only 4 per cent was in the East. This is largely low rainfall country and sheep numbers after 1850 declined rapidly on overstocked runs. The rapidly developing North West Coast, where all pastures had to be sown on cleared land, had 18 per cent.

The South, however, had only 13 per cent of Tasmania's acreage in artificial grasses in 1871 and most stock imported was sold on the Hobart market. In 1866 10,192 imported sheep and 38,530 local sheep were slaughtered in Hobart, together with 1,350 imported cattle and 2,885 locally raised cattle. In 1870 13,617 sheep were imported and 58,346 sheep were slaughtered. Cattle imports numbered 1,653 and a total of 4,814 were slaughtered. It may be taken that with small exceptions all stock imported were slaughtered. Nevertheless, in the late 1860's many southern farmers found the meat markets unremunerative. With prices generally low because of duty free mainland imports many farmers found that it did not pay to grow roots to fatten stock and to keep a constant supply on the market. Several witnesses before the Select Committee on the Agricultural
and Pastoral Depression told of farmers who drove stock to town and were then forced either to accept an unprofitable store price or to drive them home again. (1)

Only one witness, Mr. E. Shoobridge, said that he had no difficulty selling stock. His main problem was to procure healthy sheep. He was a well known "progressive" farmer from New Norfolk, one of a small group of well established mixed farmers who supplied the export and urban market with apples and stone fruit, the jam factories with soft fruit and the breweries with hops. The river flats in the New Norfolk district were well watered by seepage from the surrounding hills and in the 1860's were irrigated, primarily for hops. Roots were grown on this soil and did well. Mr. Shoobridge said that he found the "improved system of agriculture" paid him well. He cultivated about 200 acres on his farm, growing hops, mongolds, carrots, turnips and grain crops. All his sheep were fattened on grain and averaged about 50 pounds each and were worth about 10/- to 15/-. His stock were 'finished up' on carrots.

New Norfolk, Oatlands, the Huon and D'Entrecasteaux Channel were the only districts in the south to retain their population's natural increase between 1850 and 1870. The Huon and D'Entrecasteaux Channel were districts whose settlement was based primarily on timber, but which showed orcharding potential. New Norfolk farmers depended on a wide variety of produce and

(1) Journal of the Legislative Council, 1858. No.72, pp.7-8.
New Norfolk farms were therefore perhaps the most highly coordinated and prosperous in the south. Farmers in the Oatlands district had the benefit of good agricultural land and the "salt pans" for fattening stock. In short, other than timbered orcharding districts there were only two districts in the south to retain their natural increase in population; both these districts by unique circumstances were well adapted to fat stock raising.

One of the greatest problems facing sheep owners was scab. In 1870 when James Whyte introduced the Scab Act in Parliament he claimed this disease alone cost the industry as a whole £120,749 annually (1) and this was later thought to be an underestimate. (2) Scab was a problem as early as the 1820's and sheep were dressed, usually after shearing, with Hood's specific, spirits of tar, tobacco and sulphur (3) and a mixture of tobacco, water, salt and soap. This was the purpose for the occasional acre or so in tobacco. It became increasingly common after 1850. As scab is infectious much damage was done by scabby sheep passing through a district and in the auction yards. It was not uncommon to see on the roads sheep with barely half their fleece intact. The most numerous offenders were small tenant

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(1) Mercury, 8 Sept., 1869.


farmers who kept from 50 to 100 sheep. These were always
more or less diseased. (1) Larger landholders were also
affected. For example, the road from the Lake country was
unfenced and one scabby sheep could infect 20,000. (2)

Scab, besides diminishing the clip, impeded the export
of stud stock. More than 6,000 sheep were exported in 1861,
but only 900 in 1870 and less than 400 in 1880. In 1881
Tasmania was officially declared to be free of scab (although
it had been virtually free since 1879 (3)) and 1,300 sheep
were exported that year which were valued at £38,000,
compared to £15,000 in the previous year. Most of this
increase was due to the Scab Act. (4)

Several legislative measures were passed before 1870
in an attempt to eradicate scab but with no success. The
1870 Act required all sheep owners to dip twice in an
arsenic preparation not less than ten or more than fourteen
days after shearing. Visibly diseased sheep were prohibited
from the highways and public sales. Owners who did not
cleanse were liable to a fee of one farthing per head for
a first offence, then liable to a £50 fine and 3d per head
fee. (5) James Whyte was made Chief Inspector and had the

(1) Ibid., p. 14, Mr. Alexander Clerke, passim.
(2) Ibid., p. 9, James Wilson et al.
(3) Journal of the House of Assembly, 1881. No. 48,
"Report of Chief Inspector of Sheep", p. 3.
(4) Ibid, Appendix B, p. 27.
(5) 33 Victoriae, No. 2.
power to destroy the flock.

The calculations produced in 1881 when the success of these measures was announced(1) afforded an indication of what the disease was costing the industry in the plague years:

- increased quantity of wool, say 2½ mil. pounds, at 1.3d. p. lb. 145,833
- increased value of quantity produced prior to 1870 - 5 mil. lbs. at say 3d. p. lb. 62,500
- cost of dressing annually under the old system 13,500
- saving of labour - 1,200 men at £50 ea. 60,000
- increased no. and value of fat sheep 20,000
- increased export of stud sheep 12,000

$313,833$

James Fenton considered that the eradication of scab was next in importance to mineral discoveries in "tending to enrich" Tasmania. (2)

Rabbits became a major problem in the late 1860's. They appeared in large numbers when agriculture was depressed, pastures run down and labour was scarce. The decrease in sheep numbers by over 181,000 between 1869 and 1870 was partly attributed by the Government Statistician in his Annual Report to the incursion of rabbits. He also commented that sheep belonging to the same owner had been previously included in the returns of more than one district.

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(1) Journal of the House of Assembly, 1881, No. 48, Appendix B, p.27.

(2) James Fenton, History of Tasmania (Launceston 1884), p.399.
There was little complaint about rabbits before this time. They were unknown in the Clyde in 1866 and here they appeared in the south before they invaded the higher land of Bothwell in the 1870's. (1)

Fluke broke out suddenly in 1866 (2) on marshy ground in the Lake district of Bothwell and also to a lesser degree in other areas, for example along the Derwent near New Norfolk, at Green Ponds and on the Eastern Marshes near Swanport. One sheep owner lost over 2,400 at Lake Sorell. The outbreak appears to have been associated with overstocking. (3) It occurred almost entirely on Crown Land. S. H. Roberts, in The History of Australian Land Settlement made a strong issue of the outbreak of fluke as an illustration of the deficiencies of land lease regulations. He claimed that few measures were taken to offset the outbreak because of insecurity of tenure (three months notice to quit should the Crown reclaim the land) and financial exhaustion resulting from otherwise unnecessary purchase of land to prevent intrusion. (4)

Roberts appears to have stressed this point unduly.

(2) Journal of the Legislative Council, 1868. No. 72, p.6.
(3) Ibid., p.5.
There is no evidence in the 1860's of financial exhaustion of landholders in the Bothwell district. As we have seen these were landholders who were long established and their purchase in the 1860's (and to some degree in the 1850's) was prompted not by insecurity of tenure but by sufficient profit to encourage consolidation of tenure. Pastoralists were, on the whole, the most prosperous section of the community. They had the advantage of credit purchase intended for the benefit of colonial youth commencing on the land with little capital and furthermore, most of the land affected in the Lake district provided only summer grazing and was of no value to anyone other than the occupier. Resumption by the Crown was highly unlikely and provision was made for compensation. If this land did not warrant improvement because of insecurity of tenure then any legislation granting compensation was totally meaningless.

Most of the land affected was neither purchased nor improved because its value did not warrant it, especially in view of the high cost of labour. P.T. Smith, a witness before the 1868 Committee, leased 10,000 acres of flukey Crown Land which he intended to give up. He owned property in several districts and 'cultivated largely' but not roots or "artificials" because given the cost of labour it did not pay. (1) Far less, therefore, would it have paid him

to drain leased marginal land. Most witnesses felt that if the land were drained it should be the government that did so. A few considered that tenants should drain but said that to do so they would need longer leases.\(^1\) The Government Statistician stressed this in his 1868 Annual Report. Many farmers let the lease of flukey land lapse. In 1866 2,188,000 acres bringing in £9,200 in rental were leased, in 1868 only 1,493,000 acres bringing in £7,900. The rental values suggest that it was the less valuable land that was let lapse. By 1870 only 1,350,000 acres were leased.

Pastoralists had benefited from high prices until the late 1860's, but the lack of fresh land for exploitation resulted in overstocking. Vegetation was eaten down, often the best grasses were eaten out, and land and vegetation were rendered more susceptible to weather and rabbits. The flocks carried were imperilled and the animals were more susceptible to disease. Sheep numbers stagnated, then declined in the more purely pastoral districts. Due to changes in land use, in mixed farming districts numbers generally increased until about the mid 1860's, and then numbers tended to fall off in these districts also, and farmers were obliged to invest more heavily to combat the multiple incursions on the well being of their flocks.

\(^1\) For example, see ibid., p.7, W. Nicholas, witness; p.8, P.T. Smith, witness.
Chapter 11.

The Agricultural Market and Production Response
Ch. 11. The Agricultural Market and Production Response.

During the 1840's price variations were large, markets generally unstable and the future of Tasmanian producers uncertain. The gold rushes stimulated large but short term export prosperity.

Table 12.

Average Value of Imports and Exports, 1846-1860.

<table>
<thead>
<tr>
<th>5 yr. Averages</th>
<th>Imports £-000's</th>
<th>Exports £-000's</th>
<th>£ per Head Population+</th>
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<tbody>
<tr>
<td>1846 - 50</td>
<td>595</td>
<td>533</td>
<td>8.8</td>
</tr>
<tr>
<td>1851 - 55</td>
<td>1,588</td>
<td>1,359</td>
<td>23.8</td>
</tr>
<tr>
<td>1856 - 60</td>
<td>1,255</td>
<td>1,174</td>
<td>14.7</td>
</tr>
</tbody>
</table>

+ based on the 1847 census return.

It may be seen that even during the boom of the early 1850's imports continued to exceed exports, which dropped off in the mid-1850's although they remained at a much higher level than in the years before 1850. The drop in timber exports in the mid 1850's (worth £443,000 in the peak year of 1853) was responsible for much of the decline in total exports. Californian imports and mainland timber activity deprived Tasmanians of most of this briefly rich market. Export values were kept high by inflation and good wool prices. In 1851 agricultural exports were worth 84 per cent the value of wool exports, in 1852, 129 per cent, 1854, 137 per cent, 1858, 104 per cent and in 1859, 85 per cent.(1)

(1) All figures given in this section are derived from the published government statistics of the years given.
During these years a fundamental change occurred in the export pattern. Before 1850 the only agricultural exports of any real and consistent value were wheat and flour. In 1845 fruit and vegetables represented only 7 per cent of agricultural exports as distinct from pastoral exports. In 1850 as a result of exports to the Californian goldfields, they represented 17 per cent of the value of total agricultural produce and exports, chiefly of apples and potatoes, continued to expand when the boom slackened. In 1855 this category was worth 28 per cent of the value of agricultural exports, in 1860, 33 per cent.

After 1854 the real expansion in this category was in fruit exports. In 1854 potato and fruit exports were of equal value - each valued at £50,000 and representing 10 per cent of total agricultural exports. In 1861 the value of agricultural exports dropped. Potatoes, virtually the sole vegetable export of any significance, still represented only 11 per cent (£33,000) the value of agricultural exports while fruit, valued at £51,000 despite the drop in prices totalled 17 per cent.

In the early 1850's Hobart was the main exporter of potatoes, Launceston of fruit. By 1870 the bulk of the potato crop was grown in the pioneer districts and more than one half in the Horton and Port Sorell districts on the North West Coast. The rich chocolate soil of these districts was ideal for potatoes and bore prolifically. Farmers on the North West Coast also had the advantage of
being close to the Melbourne market by water transport.

Potato growing was not particularly profitable in the late 1860's. On March 31, 1871 the Port Sorell price was £1/5/- per ton, in the Horton district, £1/10/-. As the Port Sorell average yield for that year was 3.7 tons per acre, and the Horton average 4.19 tons, the average price realized was only £4/12/6 and £6/5/8 per acre respectively.

By 1855 wheat and flour exports showed marked signs of stagnation. On January 1, 1855 the *Mercury's* Commercial Intelligence columnist noted that "the commencement of the year ushers in a very depressed and lamentable state of trade ... (and) ... Sydney markets present us in some respects with almost a duplicate of our own." Heavy imports of Californian flour were received which realized very high prices. Adelaide flour also sold well in Sydney during the 1850's at a higher price than Tasmanian flour although production costs were less because of the extensive use of harvesting machinery by South Australian producers. (1) The soft grained Tasmanian wheat was not as good a milling flour and Tasmanian flour had a reputation for adulteration. (2) Carelessness in preparing the Tasmanian grain for market received severe stricture in local papers in the

(1) See Sec. B, Ch. V.

(2) Ibid.
1860's. "It cannot be doubted that this cause has at least some share in the declension of our commerce, and this mischief once done is difficult to repair." Criticisms of this kind reflected the struggle to retain the position of Tasmanian wheat and flour on the Sydney market.

During the 1860's the prominence of the north, achieved in the 1840's, was confirmed. Good agricultural land in the south was largely confined to the alluvial river flats which had long been cropped; land was available in the north and on this wheat yields were generally higher than in the south. The northern districts of Westbury, Longford and Deloraine became the principal wheat producers and Launceston became the wheat export port. Brighton, with nearly 11,500 acres in wheat in 1864, still had the largest single acreage in the early 1860's but other southern districts had lost their old prominence. By 1870 - 1871 there were only 3,700 acres in wheat in the Brighton district. Wheat growing in the south by 1870 was almost solely for local and urban stock requirements. The produce of the more prolific soils of the north monopolized the export outlet and enabled northern producers to retain their hold on the meat market.

In 1861 cereal exports represented 74 per cent of the value of agricultural exports, in 1870, only 39 per cent. Potatoes represented 11 per cent in 1870, fruit and other vegetables totalled 38 per cent and hops, suddenly a major export item at the close of the 1860's, represented 12 per
cent. In 1871, however, Victoria imposed a tariff on hop imports and the price of hops at New Norfolk dropped from 1/6 to 9d. per pound.

Oats exports became important as wheat and flour exports declined. In 1866 Victoria imposed a 9d. per cwt. tariff upon imported grains and a 1/- per cwt. tariff upon flour and other manufactures. In 1861 oats represented 39 per cent of cereal exports, in 1871, 63 per cent. Wheat exports dropped from 39 per cent to 17 per cent and flour exports from 19 per cent to 13 per cent in these years. However, although the decennial comparison reveals the declining importance of wheat and flour, the situation in the 1860's was one of wide fluctuations and year by year inconsistencies. For example, in 1864 flour exports represented 54 per cent of cereal exports and wheat only 6 per cent while in the following year oats exports were nearly 67 per cent, wheat 11 per cent and flour 14 per cent. of cereal exports. These year by year inconsistencies indicate the unstable position of the Tasmanian producers on the mainland market.

Flour exports were not entirely of Tasmanian production. Tasmanian wheat could not compete with other grains in quality or cost of production. Milling in Tasmania, however, was cheap because there were suitable streams and rivers near the ports. (1) Considerable quantities of wheat were

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(1) Mr. K. Dallas, Dept. of Economics and Commerce, University of Tasmania. Interview.
imported, milled and re-exported as flour, especially from Hobart. Hobart imported more than £27,000 worth of wheat from New South Wales, Victoria, South Australia and Valparaiso between 1866 and 1870 and exported flour valued at £31,000. In the same period Launceston imported £814 worth of wheat and exported £127,000 worth of flour.

The goldrushes stimulated oats, straw, hay and bran exports because fodder was at a premium. In the 1860's, however, bran, hay and straw exports were not large, generally about £3,000 a year. In the late 1860's one fifth the total crop acreage was in hay. The Government Statistician pointed out in his 1867 Report that at £3 per ton, with hay yielding only one ton per acre -

with seed, ploughing, mowings and carriage and other operations discounted it will be found there is scarcely enough left for profits. Indeed, taking into account the exhaustion of the soil, it is questionable whether there would not be an actual loss.

In 1871, with the same proportion of cropped land in hay, the price was still low, ranging from £2/10/- to £3 in most districts. At Brighton and Sorell hay sold at £2 to £2/5/- per ton. With little export outlet the home market was saturated.

**Hobart Prices.**

<table>
<thead>
<tr>
<th></th>
<th>Wheat per bushel</th>
<th>Barley per bushel</th>
<th>Oats per bushel</th>
<th>Hay per ton</th>
<th>Potatoes per ton</th>
</tr>
</thead>
<tbody>
<tr>
<td>1865</td>
<td>10/-</td>
<td>5/-</td>
<td>4/-</td>
<td>£4/10/-</td>
<td>£5</td>
</tr>
<tr>
<td>1871</td>
<td>5/-</td>
<td>2/6</td>
<td>2/6</td>
<td>£3</td>
<td>£3</td>
</tr>
</tbody>
</table>

With the drop in agricultural prices in the late 1860's yield and transport costs determined the margin of profit
and loss in districts where cropping normally paid, as may be seen by comparing the value of yield per acre in Westbury and Longford, the two districts with the largest wheat acreage in 1870-71, and Deloraine. The price of wheat in Westbury was 4/8 per bushel, in Longford 4/9. The Launceston price was 5/-. The difference in price between the two districts was largely due to the difference in transport costs. Westbury's average yield was 12.96 bushels per acre in 1870-71 and Longford's average yield was 22.25 bushels per acre. The Tasmanian average was 15.92. On these figures the Westbury farmer received £3/0/5~ per acre, the Longford farmer £5/5/8. In the Deloraine district, further inland, the average yield was 18.46 bushels per acre which, at 3/4 per bushel, gave a return of slightly over £3/1/6 per acre.

A quick, cheap system of transport was needed to stimulate agriculture and equalize returns. However, the improvement of roads - much needed in 1870 in all pioneer districts - was only a limited answer in days of horse and cart transport, as a 20 mile trip was a day's haul. The advantage of farms on the rapidly opening up North West Coast may be easily appreciated. Cartage in the North East, which was slower developing than the North West, was £4 per ton for the 34 miles from Ringarooma to the Scottsdale railway, opened up in 1889. (1)

(1) Loone, A.W. *Tasmania's North East* (Launceston, 1928), p.36.
The Government Statistician maintained a somewhat heavy-handed optimism in his reports between 1867 and 1869, an optimism based on expectation of new agricultural prosperity with the completion of a railway system and upon the availability of money from London, rather than any satisfactory aspect of Tasmanian production. By 1870, with the hardening of the agricultural depression, his optimism gave way.

Table 13.

Average Value of Imports and Exports 1856-1870.

<table>
<thead>
<tr>
<th>5 yr. Averages</th>
<th>Imports £-000</th>
<th>Exports £-000</th>
<th>£ per head population Imports £</th>
<th>Exports £</th>
</tr>
</thead>
<tbody>
<tr>
<td>1856-60</td>
<td>1,255</td>
<td>1,174</td>
<td>14.7</td>
<td>13.8</td>
</tr>
<tr>
<td>1860-65</td>
<td>877</td>
<td>836</td>
<td>9.5</td>
<td>10.2</td>
</tr>
<tr>
<td>1866-70</td>
<td>870</td>
<td>804</td>
<td>8.7</td>
<td>8.1</td>
</tr>
</tbody>
</table>

It will be seen that exports per capita declined during these years although 1856 to 1860 were not particularly prosperous years for any except wool producers. Fruit growing was still merely an incidental sideline for farmers.

By 1870 there was a marked concentration of prosperity in certain geographic areas. Despite the drop in price in the late 1860's wool producers were, on the whole, the most prosperous section of the community. They had had almost twenty years of good prices. Farmers in the North enjoyed prosperity from wool, retained their hold on the Launceston fat stock market, gradually emerged as Tasmania's leading wheat producers, and, until the codlin moth devastated orchards in the north in the 1860's,(1) profited from fruit

(1) See Sec. B, Ch. III.
exports. The North West Coast also prospered in a small way as a cereal and potato growing area. In the South, fruit growing was concentrated along the Derwent, with considerable development around New Norfolk, and in the Huon, which expanded rapidly as the codlin moth worked its way through the orchards of the north. At New Norfolk hops were grown as a sideline.

Most areas in the South, however, stagnated in these years. The wheat export market and the Commissariat market were lost, the Hobart market was slack and imported wheat was at times sold upon it. Yields were generally lower than in the north, a decisive factor on a stagnant market. Only a few farmers could compete successfully on the Hobart market with imported stock and many farmers abandoned the attempt. Dairy produce found a seasonal sale in Hobart but little was exported. The south was ill-suited to dairying, the Tasmanian product ill-prepared for export, and Irish butter was the stay. For many farmers in the south wool alone was profitable and most farmers, with a few exceptions, increasingly concentrated on wool. When wool prices dropped in the late 1860's the agricultural situation in the south was very depressed.
Chapter 111.

Fruitgrowing
Ch. 11. Fruit Growing.

The first shipment of fruit to the mainland was probably that to Sydney recorded in the Colonial Times of 23 April, 1830. Small exports of fruit, jams, preserves and seedlings were made to the mainland in the 1840's and a few speculative shipments were made abroad. In 1829 a trial shipment of apples was sent to England with discouraging results as fruit did not keep well during the long voyage in sailing vessels through the tropics. (1) A speculative shipment was also made to Mauritius. (2) In 1849 fresh and dried fruit were shipped along with wheat, flour, potatoes and timber to California.

The only important markets before 1850, however, were Hobart and Launceston, which were supplied from local kitchen orchards and from the farm orchards of the Derwent and the Tamar and South Esk Valleys immediate to Launceston. (3) Cider was made commercially in the Swanport (Swansea) and Spring Bay districts on the East Coast where eight of Tasmania's sixteen cider makers resided in 1849, but when apple exports became profitable in the 1850's cider production ceased to be important. (4) The South East (Franklin/}

(1) Colonial Times, 3 July, 1829.
(2) Hobart Town Courier, 21 March, 1829.
Huon) was pioneered in the late 1830's and 1840's but as apple trees take up to twelve years to mature here, there can have been few orchards in bearing before 1850.

When the gold rushes created a market exports of fruit grown in kitchen and farm orchards suddenly soared. In 1849 green fruit exports were worth only £7,000, in 1852 they were valued at £13,500 and in 1858 totalled £72,200. Fruit exports increased ten times in value in nine years. The bulk of fruit exported went through Launceston to the Melbourne market where high prices held until the early 1860's. (1)

In the 1860's the export trade stabilized and expanded. Victoria provided the main market. In 1865, 19,500 bushels of green fruit were exported to Victoria from Launceston and only 100 bushels to New South Wales and New Zealand. 92,500 bushels of green fruit were exported to Victoria, 29,000 bushels to New South Wales, 15,000 bushels to New Zealand, 1,000 bushels to Queensland and a total of a little over 300 bushels were exported to Mauritius, Guam and South Australia from Hobart, which emerged in the 1860's as the leading export port for apples. By this time jams and preserves had also become important export items from Hobart and over £10,000 worth were exported to both Victoria and to New South Wales, over £5,000 worth to New Zealand and a total of over £2,000 to other places. The

(1) See Goodhand, *Pome Fruit Orcharding*, p. 28 f. An average Tasmanian price is not given for these years.
average annual value of green and preserved fruit exported in the five years 1861-5 was £74,700 and in the five years 1866-70, £87,100. In 1849 fruit exports represented less than 6 per cent of the value of total agricultural exports. By 1861 they represented 17 per cent, in 1870, 38 per cent.

In 1860, 43 per cent (45,000 bushels) of Tasmania's apple crop was grown in Launceston and a further 18,000 bushels came from the mixed farming hinterland districts of Longford, Cressy and Westbury. Hobart and the mixed farming districts of New Norfolk, Brighton, Richmond and South Arm in the South produced 24,000 bushels. The East Coast produced 10,000 bushels and the rest was grown in the Midlands. The South East produced only 3,000 bushels. In 1855, however, the codlin moth appeared in Invermay and St. Leonards on the outskirts of Launceston and as no check was known, it spread rapidly through the north. (1) Launceston's apple production dropped from 45,000 bushels in 1860 to 4,000 bushels in 1864. Pears were similarly affected and production dropped from 5,000 bushels to 1,800 bushels in these years. By 1870 Launceston had ceased to be a major producer while acreage in the south, which had remained clean, expanded rapidly. By 1870, 61 per cent (90,000 bushels) of the state's apple crop was grown in the south and south east.

Little attention was given to methods of cultivation

(1) Ibid., p.21.
before the late 1860's. Orchards were planted for domestic use; where climate and soil were suitable trees thrived. Nothing was known of pruning and soil was not manured. The first commercial plantings were made in the late 1860's by a few farmers in the Derwent Valley, in particular the Shoobridge family, who also grew hops. These farmers learned up to date techniques when visiting the United Kingdom and put them to use on the well watered alluvial river flats of the Derwent near New Norfolk. (1) Orchard blocks were large, often 40 acres or more. Besides apples and pears, stone and soft fruit were grown for Hobart and the jam factories. Pruning was first practised on these planned orchard blocks. (2) The farms on which commercial plantings were made were relatively large, many over 1,000 acres, well cleared, and orcharding was combined with hop growing, cropping and livestock production. Farmers drew on capital reserves built up from other branches of farming enterprise.

New Norfolk farmers also pioneered hop growing in Tasmania. Hop growing developed rapidly after 1864, when plantings were made at Bushy Park near New Norfolk. Some earlier attempts elsewhere had relative success but many failed. Hop growing required irrigation and profits did not justify this. In 1854 only 55 acres, producing 27 tons

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(2) Ibid.
were in cultivation. In 1864 eight acres were planted at Bushy Park and for the first time in Tasmania the crop was picked the year it was planted. High prices prevailed and more plantings were made at New Norfolk. By 1870 there were 50 acres at Bushy Park alone. Each acre cost about £50 a season and with a yield of 1,200 pounds, prices had to be above 1/- a pound to pay. When Victoria placed a tariff on hops in 1871 prices at New Norfolk dropped from 1/6 to 9d. per pound.

By 1870 commercial apple orchards were also being planted in the Huon Valley. Settlers in this district were men of little capital. Early orchards had been planted as a part of subsistence livelihood and as these throve and the market promised well, more trees were planted as cleared land became available. Until the trees matured and the farm was cleared, farmers grew their own food and earned cash by working for neighbours or at the local timber mills, by splitting palings or by growing a quick cash crop of soft fruit primarily for the jam factories. Rasberries, strawberries and gooseberries were grown in small cleared

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(3) Jams and preserves became important exports in the 1860's and jam factories expanded. Most notable was George Peacock's concern, which began in a small way shortly after his arrival from England in 1853, and expanded greatly in the 1860's.
patches and were the staple of small pioneer farmers in the
Kingborough district. (1) The timber trade which had stim-
ulated settlement in the Huon had lost its youthful vigour
by 1870, timber suitable for paling splitting had been
well picked over and agriculture was depressed. (2) These
factors stimulated commercial plantings and in 1871 Walch
reported of the Huon that "the lower flats beside the river
are almost wholly covered by orchards." (3)

Early plantings were made on rich soils. It was not
until the river flats were fully utilized that poorer soils
on relatively steep slopes were brought into cultivation.
These were later found to be the most suitable. (4) The
first blocks were small, usually of one to two acres where
woodland was very dense, occasionally of about four acres.
Trees were therefore planted as close as possible (14 to
16 feet apart). (5) In the 1870's, when more plantings were
made and more orchards came into bearing, orcharding
superseded other enterprises.

(1) Agricultural Report, Statistics of Tasmania, 1870:
Collector for Kingborough's Report.

(2) See Sec. B, Ch. IV.


(4) Goodhand, Pome Fruit Orcharding, p. 40.

(5) Ibid., p. 45.
The Derwent and the Huon orchards both relied on water transport. Where this was lacking orchards had no commercial value and fruit not consumed locally was left to rot.\(^{(1)}\)

Transport costs affected fruit growing even more than cereal growing as the crop was bulky and liable to bruising. Within twenty years a regular and sizeable fruit and jam export trade to mainland states had developed. Demand from Victoria and, increasingly, New South Wales, was sustained after the gold rushes while other farming activities were depressed.

\(^{(1)}\) Agricultural Report, Statistics of Tasmania, 1870: Collector for Bothwell's report.
Chapter 1V

Settlement in Forested Regions: The North West
North East and South East
Ch. IV. Settlement in Forested Regions: The North West, North East and South East.

i. Settlement Prior to 1850.

The North West Coast was pioneered by the Van Dieman's Land Company settlers who arrived in 1826. Until the mid-1830's the only other settlements were at Northdown at Port Sorell and the Frogmore estate on the west bank of the Mersey. Despite the assets of cheap water transport to the Melbourne markets and good basalt soil there was little expansion of settlement on the North West Coast until the 1840's. The limited tracts of semi-cleared land were already monopolized and clearing forest land was too costly. The Van Diemen's Land Company cleared a few acres of forest land at Emu Bay by felling the large trees and grubbing up the lighter timber, but as this cost £30-£40 per acre no further effort was made to break into forested land. (1)

In the 1840's timber trading became important along the length of the Coast from Stanley to Port Sorell. A South Australian ship traded directly with the Forth where some Adelaide settlers made a home. (2) The activity of timber cutters and wattle strippers made the Coast better known. Would-be farmers took up land in the bush around Port Sorell, the Forth and at Emu Bay and at Circular Head,

(1) Fenton, Bush Life, pp.7-25.
(2) Ibid., p.60.
where the Van Diemen's Land Company's land was broken up into small tenant farms after 1842. Land semi-cleared by timber cutting was laid down in crops and the trade provided cash payments.

Clearing progressed rapidly once the ringbarking technique was discovered. Ringing was first used for clearing in 1841 by James Fenton at the Forth. He learned of this technique from a Canadian and it was soon widely used on the North West Coast. After ringing the undergrowth was grubbed up, cut into lengths and thrown on a fire, usually made against the trunk of a fallen tree. However, the first ploughing was anything but easy:

... Besides the difficulty of keeping a furrow with so many enormous stumps of trees in the lane, the bullocks were always scrambling to get hold of the potato sets... The driver, too, was constantly hitting the bullocks to keep them honest, which caused them to jump from side to side, so that when the crop came up it looked almost as if sown broadcast, and then when the dead bark and boughs came down like an avalanche in the summer, when the tubers were in blossom, the prospect was anything but delightful.

Despite the benefits of ringbarking and the timber trade, bush farming remained at subsistence level because of low agricultural prices. Potatoes generally sold at about 10/- per ton. Only the Van Diemen's Land Company's tenants prospered. They were protected by a guarantee given by the

(1) Ibid., p.58.
(2) Ibid., p.53.
(3) Ibid.
company in 1844 of fixed prices for seven years. (1) Mrs. Meredith, in her account, *My Home in Tasmania*, claimed that she had never seen such poverty as she saw at Port Sorell. Clearing costs were £10 per acre and settlers subsisted through the winter on cabbages and the few scraps of meat they could borrow or beg. (2) Fenton's retrospective account is a little more sturdy. He described the 1840's as "that terrible period of distress" but commented upon the newcomers constantly swelling numbers in his district.

Homesteads, rude and primitive in structure, were being established everywhere in proximity to the ports; and the forests, which up to 1841 were too costly to clear, were now bowing before the stroke of the axe ... The farmers obstinately persisted in growing potatoes ... because the chocolate soil produced such splendid crops and the tubers were useful for ... rearing and fattening pigs, poultry, bullocks, and ... children; but they could also grow wheat, oats and hay, for home consumption. Instead of growing mangolds for stock, it was swedes everywhere ... so that settlers were very comfortable except in odd cases of stupidity, where some unfortunate individual mistook his place in nature and went into the bush without the ability to suit himself to the circumstances. Twenty acres was considered enough for a farm, in cases where the men had no capital but their wives and children. The land was broken up by the hoe, the family, as a rule, doing that part of the business as well as clearing off the scrub.

But these people did not live altogether from the produce of their farms. They went out into the forest, splitting palings for the traders who periodically looked into the river for a cargo of whatever might turn up. (3)

(1) Ibid., p. 58.
The river system facilitated settlement in the timbered south east. Sir John and Lady Franklin purchased 640 acres on the Huon which was subdivided into tenant blocks, and the small settlement there provided a staging point for other new settlements. Huonville and Geeveston were pioneered by families from the Franklin Estate. (1) Small farms worked by family labour were the only economic unit in timbered districts. A few grants of 500 to 600 acres were made in the Huon before it was realised that forest land blocks could not be handled by one operator, even with convict labour. Most of these were subsequently broken up into units which a family could manage, thus establishing the pattern of small land holdings. (2)

Other land was taken up along the river banks in the late 1830's and 1840's when timber splitters began working in the hills about Port Huon. Splitters usually burned off an area of ground and cropped it. Uncertainty as to the arrival of stores and fluctuating timber prices made self-sufficiency desirable. (3)

Osborne Geeves, whose family came to the Huon as tenants of Lady Franklin and took up 80 acres of land in 1849 at Lightwood Bottom, described the way of life of the early Huon settlers:


(3) Centenary ... of the Huon, 'Development of Geeveston.'
We lived in bark and slab huts, built by ourselves, and split shingles and lathes at night to buy rations... We worked on the land in the daytime, planted potatoes, grew vegetables of all kinds and lived on them largely; raised a few fowls, your old mother making half a pound of butter a week from goat's milk... dug eels out of the swamp. In a year of two a cow was bought, some little pigs reared on thistles till the potatoes, peas and beans grew... A little longer and how we enjoyed the first pig. Ducks were kept. Fortunately there were no stores at which to go and get credit. That saved us from luxurious ruin. (1)

It was not, however, the lack of credit but the availability of a first cash crop in timber, shingles or palings which enabled early settlers in both the north west and south east to avoid the debt that harnessed many farmers in the following years. Osbourne Geeves and his brother later became storekeepers. (2)

In the East there were only a few large pastoral estates by 1850. The first location order was made in 1836 to Samuel Reeves and in the following year Simeon Lord obtained 2,560 acres at Cape Portland. (3) Other location orders were made in the 1830's for the limited scattered grasslands on the East Coast and small isolated settlements were made along the coast at access points. (4)

(1) Cit. ibid.
(2) Ibid.
(3) Bethell, The Story of Port Dalrymple, p.187.
(4) Ibid.
The forested timberland stretching to the grassland plains east of Launceston and the Morven district was left untouched. Less rugged sections of this country were akin to the North West Coast in rainfall and soil type, although the basalt soil was more broken, and were potentially good agricultural and dairying land, but even after the discovery of the ringbarking technique these areas could not be farmed because they had no water access.

ii. Settlement 1850-1870.

The first real phase of settlement in timbered regions occurred in the 1840's with timber as the basis of settlement. Speculation marked the second phase and traders along the coast, realizing which centres were likely to grow, were among the first speculators. (1) The "quiet enjoyment regulations", also known as the Pre-emptive Rights Regulations (2), widened speculation by securing to anyone who purchased one hundred acres a right over ten times the area for ten years. (3) At first no limits as to acreage was set. All land on the North West Coast was immediately taken up for fifteen to twenty miles back from the

(1) Fenton, Bush Life, p.60.
(2) Ibid., pp.85-87.
coastline. (1) As surveyors were scarce it was years before the blocks were measured off. This, said Fenton, suited the speculators well, for payments dated from the time the land was surveyed.

Thus everybody could see their boundary line before they were required to pay a penny, so that those who got a good block of land out of the lucky bag kept it, and those who were less successful in the one sided venture were able to relinquish their claim without any loss. (2)

The regulations were repealed in 1856, when Crown Land was sold by auction and leases were subject to three months notice to quit. Much damage, however, had been done. Some farmers were forbidden to cart their produce through unoccupied alienated land and could not get access to the coast to ship their produce. In West Devon nearly all the back blocks were speculative selections and were forfeited when payment of rent was demanded after survey in the mid-1850's. Most of the good land eight or ten miles back was again taken up under the credit clause of the new act by bona fide settlers. (3)

Between 1850 and 1870 agriculture on the North West Coast developed from subsistence farming - there were potatoes for a cash crop in the 1840's but no demand - into a commercial enterprise, but even in the 1850's it was the timber trade that stimulated much of the new development.

(1) Ibid., pp.86-7.
(2) Ibid.
(3) Ibid.
The profitability of the paling trade drew many men home from the goldfields. "The paling racket was a quite unique phase in connection with the gold fever." (1) Fenton commented that he seldom had less than £1,000 in his house or on his person. As most ships calling for palings were strange, vessel's payments were in cash, and gold and bank notes accumulated. "Only a short while before sovereigns at the Forth were like angels' visits, few and far between, now they were as plentiful as blackberries." (2) Sphitters were receiving £1 per 100 palings and were doing so well they could turn down extra inducements "...it isn't money we want, it's a day's recreation at the new house at the Mersey." (3)

The gold rushes created a mainland demand for agricultural produce. North West Coast communities looked outwards to these markets, depending for their existence on water transport. There were numerous small ports and jetties along the coast giving outlet to the mainland but an adequate road system along the coast was still lacking. In 1870 communities tended to be in closer contact with Victoria than with one another or with Launceston.

In the Huon also high timber prices in the early 1850's stimulated settlement. A number of large estates in the

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(1) Ibid., p.164.
(2) Ibid., p.165.
(3) Ibid., p.164.
district were broken up. These sites had been chosen because of soil, slope and water access. An estate at Lightwood Bottom was broken up in 1855 into 25 farms of 20 acres each. Each had a freshwater frontage and the lease was for seven years. The first year was rent free, the rest at a fixed rate payable in produce. A loan of £5 per acre was advanced to tenants for each acre brought into cultivation within twelve months, to be repaid in instalments at bank interest. Seeds, fruit trees etc., were provided on similar terms. A room fit for a place of worship was to be provided, a school room erected, and a cottage, personal rations and £50 per annum contributed for a resident schoolmaster. (1) These inducements made it clear that there was no pressure for land. They also show how many pioneers acquired debts.

Tully estimated that the cost of clearing in the south was treble that of the north (£4 per acre) as forest cover was heavier. (2) The bigger trees were ringbarked and left, the undergrowth cleared with axe and billhook, and ground scrubbed. Bullock teams and hand labour were used for "logging up" - hauling logs and branches into piles, where they were fired in the late autumn. In the second year burning off continued, small stumps and roots were grubbed out by mattock, and small debris picked up by hand. Complete

(1) Mercury, 1 Jan., 1855 et. al. (advertisement).

clearing was not achieved at once and cultivated land was littered for years. (1) Ten to fifteen acres were considered sufficient for pioneer families here. Fruit trees, soft fruit, potatoes, wheat and vegetables were grown around the house. (2)

In 1858 the bottom dropped out of the timber market and settlers struggled. Few had had time to establish themselves properly. The parliamentary representative for the district reported in 1860 that there was more destitution in the bush in the Huon than he had ever seen before, even in Ireland, (3) the homeland of many in this district. Settlers used their depressed situation as an argument for a good road through to Hobart. Apart from a rough track blazed through the bush, settlers depended on water transport. Huon residents, like those of the North East, were bitter when the government rejected this proposal on the grounds that it would not pay. (4) However, given the financial problems of the government, low prices for timber and agricultural products and the existing advantages of water access, the government's refusal was not unjustified.

In all timbered regions, but especially in the Huon, many farmers were heavily dependent on sawmills and the

(1) Ibid.
(3) Mercury, Aug., 6, 1860, Parl. Report, Mr. Balfe.
(4) Mercury, correspondence, September, 1860, passim.
traders. In the Huon sawmills provided employment and ready cash. Agriculture remained largely subsistence, pursued by lantern light when necessary after a day's labour at the mill or in the bush. Milling interests were generally associated with the local stores which purchased agricultural products and provided goods on credit. (1) Although in the 1860's the 'paling racket' was at an end, forest products remained the base from which agriculture grew.

The cultivation of apples began as no more than part of subsistence agriculture. By the late 1860's, however, many Huon apple trees were bearing and as codlin moth devastated orchards in the north the demand for fruit for export increased in the south. Farmers devoted more land to plantings which were made on the river flats of the Huon and Mountain Rivers at Victoria (Ranelagh). (2) These fertile flats were better suited to agriculture than the slopes above, but by 1870 were largely monopolized by plantings as fruitgrowing proved more profitable than agriculture.

Settlement in the North East was slow developing. Scott's survey of the area in the 1850's attracted some interest and Scott himself selected 4,000 acres (Legerwood). His nephew, J.R. Scott, took up 5,000 acres further down the

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(1) E.g., the Don Trading Company on the North West Coast. Settlers used the company's tramway for transport of agricultural products. Also the tramway at Geeveston, organized originally by eight shareholders, later operated by J. & O. Grees and sold in 1902 to the Huon Timber Co. Promoters were storekeepers, also buyers & consignees. See Centenary... of the Huon, "Development of Geeveston."

(2) Goodhand, Pome Fruit Orcharding, p.40.
Ringarooma River which he named Branxholm. (1) This land was left unimproved because of transport and labour costs. (2) Transport costs were too high even for sawmilling and such small settlement as there was by 1870 was subsistence. There was no cornmill at Scottsdale until 1868 and until then settlers ground their wheat with small steel hand-mills. (3)


(3) Bethell, The Story of Port Dalrymple, p. 189.
Chapter V

Agricultural Technique
Before agriculture can ever flourish in this Colony a total change of the present system is necessary. That system may have answered well enough in time when soil was new, and the labour of convicts could be had for little more than the cost of their rations. A very moderate return then paid the farmer handsomely. But now, when labourers’ wages are high, and farm hands difficult to get, an entirely new style of cultivation is necessary in order to make farming profitable. Instead of scratching up the surface of the ground to a depth of three of four inches and year after year growing the same crop, without manure, and without falling, the soil must be manured and better prepared, a better rotation of crops observed, and every means taken advantage of which science and observation afford with a view to increase the fertility of the soil and diminish the cost of production. In fact, the whole principle of successful cultivation is contained in this problem – to obtain a maximum produce at a minimum cost. (1)

A comparison of the acreage in grain crops, roots etc., between 1848 and 1870 shows little overall improvement. In 1848 89 per cent of Tasmania's cropped land was in cereals, in 1864-65, 86 per cent and in 1870-71, 87 per cent. Root crops represented 9.5, 8.5 and 8.4 per cent respectively in these years. The proportion of cropped land in pulse increased from 0.5 per cent in 1848 to 2.5 per cent in 1864-1865 and 3.6 per cent by 1870-71, but despite this increase the proportion of land in pulse remained small. It is apparent that even by 1870 any proper rotation of crops cannot have been very common.

Rotation implies a diversity of crops, all equally suited to climate and soil, and all profitable. Intensive

rotation in Europe went with mechanization, a large market, water transport and the availability of manure from towns, brought back to the farms as return freight. Cattle were hand fed in farm yards and natural manure was spread on small fields. This combination of factors did not exist in Tasmania although some farmers benefited by a few of these advantages. There was, as is shown above, extensive official propaganda for improved methods such as rotation but in conditions where this was unprofitable, official propaganda was meaningless. Mixed farming with cattle grazing the stubble of the grain crop was not altogether inefficient. With hand reaping the stock gleaned much straw and grain. Growing roots and peas for stock was futile in the late 1860's when prices were low and costs high.

Returns were published after 1868 - 69 showing acreage rotated. In 1868-69, 16,100 acres were shown as rotated, 150,300 acres as cropped and 287,300 cultivated. The following year the area shown as rotated had risen to 24,700 acres and there were 161,600 acres in crop and 318,500 acres cultivated. (1) Much, if not most of this acreage, as we have seen, cannot have been properly rotated although no doubt in the broad sense it received some casual 'rotation' over the years.

On the northern plains, the leading agricultural region, only Westbury showed much acreage rotated (7,700

(1) All figures given unless otherwise stated are from the published Government statistics of the years given.
acres) in 1870-71; Longford, with nearly 8,000 acres in wheat alone, had none, nor had Deloraine. Westbury's rainfall, however, was heavier and it was a district with many small farmers.

The district in the north with the largest area shown as rotated - and the least suspect - was Port Sorell where, with a total of less than 14,500 acres in crop, 13,600 were claimed to be rotated. In 1870-71 there were 2,900 acres in root crops and 10,200 in grain and hay, together with 75 acres in artificial grass for seed, 500 acres in pulse and tares and over 100 acres in green forage. As all pastures had to be sown it is likely that the rotation claimed was essentially a loose one but none the less, once land was cleared and cultivation became profitable, mixed farming was inevitable in this region. With good soil and rainfall, water transport and a close market all crops were marketable. Root crops thrived and potatoes constituted three quarters of root acreage in 1870. It became practice to follow the potato crop with grass or grain. By 1870 more than half of Tasmania's potato crop was grown in the Horton and Port Sorell districts. The Northdown estate in the Port Sorell district was an important fat stock producer as its pastures escaped the early frosts. Cattle were driven overland to market.\(^{(1)}\)

Nearly 17,000 acres of the 39,000 acres shown as

\(^{(1)}\) Mr. Thomas, Jr., Northdown, interview.
rotated were in the South, mainly in the Sorell district (5,500 acres), New Norfolk (4,200 acres) and Glamorgan (5,000 acres). There were only 5 acres at Brighton, for many years the leading wheat producer. The proportion of crop type to total acreage in the above districts did not suggest that proper rotation could have been as extensive as claimed. For example, in the Glamorgan district there were 5,300 acres cultivated and 5,000 acres claimed to be rotated. There were 1,600 acres in grain and hay, less than 200 acres in pulse and 300 acres in root, a few acres in grass for seed and green forage (26 acres and 19 acres respectively), an acre or two in hops and tobacco, 200 acres in orchards and gardens, less than 300 acres under bare fallow and 1,300 acres described as "all other cultivated". This category usually consisted of previously cropped land which had been let lapse. On the crop acreages given it seems unlikely that rotation was understood in its proper sense. Rotation at New Norfolk, however, was on land irrigated for hops. Roots and cattle provided manure for hops - the system in Kent from where the Shoobridges came.

In most of the south natural conditions did not favour root cultivation and the cost of manure and labour discouraged cultivation when prices were low. Witnesses before the 1868 Special Committee in the depression stressed the labour issue; under existing conditions growing roots and raising fat stock did not pay. (1) Cropping declined

in the south in the 1860's. One witness, W. Webb, stated that he used to cultivate 600-700 acres at Black Marsh but in 1868 he only cultivated 50 acres. (1)

In 1870-71 there were only 1,400 acres of turnips and 1,100 acres of mangel wurzels in Tasmania. Until then farmers had grown mainly turnips but in the 1850's and 1860's the crop was badly damaged by the "cabbage blight". The remedy was a dusting with lime but this had to be done at night when the dew was on the plant and it was almost impossible to dust beneath the leaves. (2) In the late 1860's mangel wurzels were grown instead of turnips and by 1870 almost equalled the acreage in turnips.

Another feature of the 1860's was the increased attention to pulse. More than half (2,300 acres of a total of 4,500 acres) was grown in the south. There were nearly 700 acres of peas at Sorell. With the exception of the pioneer timber - orcharding district of Franklin, New Norfolk had the smallest acreage. Peas were a very minor occasional export to Victoria in the 1860's and were used mainly for fattening pigs. They provided an excellent rotation and though they grow best on the North West Coast

(1) Ibid.

(2) Tasmanian Telegraph, 16 Oct., 1858. An experimental blast fan to spray the whole plant was reported. In 1860 (e.g. Mercury, 3 Oct., 1860) Weaver & Co. were advertising their "Blight Destroyer".
and in the North East, they were significant first in the south where restoration of soil fertility was an immediate problem. Sorell has a heavier rainfall than other southern districts, the eastern part of the district being within the 30" isohyet circumferencing the Tasman Peninsula.

Proper manuring was not general in 1870. Supply of natural manure was small and artificial fertilizers beyond the reach of the ordinary farmer. (1) Peruvian guano became available in the late 1840's, and bonedust was produced locally. It was advertised in the 1860's as selling at £6 per ton. In the 1850's an artificial fertilizer trade was organised from Hobart (2) and Australian and Flat Island guano were available in the 1860's. Australian guano sold at £16 per ton, Flat Island guano at £7-5-0 per ton. Initially the supply was very limited. The Hon. W.L. Crowther, who organized the trade from Hobart in conjunction with his whaling and sealing interests, warned farmers in 1861 that the supply on hand was very limited and deposits contained only traces of the valuable phosphates. (3) Supply increased in the 1860's. This concern imported 462 tons of guano in 1863, 854 tons in 1864 and 1,600 tons in 1865. (4)

(3) Ibid.
(4) Ibid.
Guano was generally applied at the rate of 150 to 200 pounds per acre, usually ploughed or drilled in with the seed, but it was sometimes broadcast, having been reduced to a powder and mixed with dirt to ensure more even distribution. (1) Peruvian or ammonial guano was suitable for green crops, phosphate guano and bonedust for grain and root crops. Although they might be used together to advantage they were not interchangeable, a fact not always understood by farmers. (2) Much of the phosphate was insoluble. Some farmers overcame the problem by the use of sulphuric acid, converting it to superphosphate of lime. (3)

Where rotation and manuring were neglected, bare fallow was the remaining alternative for conserving fertility. Fallowing also conserves moisture and keeps down weeds. In Tasmania the ploughing in of the stubble to rot was done on the late autumn. It was not very general until the late 1860's. Fallowing required horses (only coming into use at the plough in the 1850's) and each ploughing was another cost. In 1858 it was estimated to cost £5 to £6 per acre in tillage and labour. (4)

The amount of land fallowed appears to have increased in the late 1860's, partly as a result of increasing use of

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(1) Mercury, 4 Jan., 1858.
(2) Government Statistician, Annual Report, Statistics of Tasmania, 1866. P.XIX.
(3) Ibid.
(4) Tasmanian Telegraph, 16 Oct., 1858.
horses and machinery, and because low prices for agricultural products encouraged efforts to achieve a more economic yield. Returns for 1867–8 showed 18,805 acres under bare fallow. The Statistician considered this too high as some Collectors understood bare fallow to mean land which had been cropped and then laid down in pasture (probably also defined as rotation) or allowed to relapse to nature, and he stressed that it was unwise to draw any conclusion from these figures. (1) The time of the year when figures were collected (stated as March 1) would have affected the returns. In Europe fallow lay all winter through but a winter crop (such as turnips) is practical in Tasmania. This factor is a variable in any discussion of acreage.

In the year 1870–71 there were 157,000 acres in crop and 26,000 acres in fallow, much above the suspect 1867–8 figure. Of this, 16,400 acres were in the northern region and 6,500 acres in the south, excluding Franklin. The largest single acreage was at Longford, which had one third the acreage in crop under bare fallow. For Westbury the proportions were one fifth, Evandale one sixth. Deloraine, on the other hand, with nearly 14,000 acres in crop had only 668 acres fallowed.

In the south the largest acreages under bare fallow were in the Brighton, Clarence, Richmond and Sorell districts. Brighton had 1,770 acres under bare fallow and

10,640 acres in crop, Clarence had 1,140 acres fallowed and 6,040 acres cropped, Richmond 1,191 acres fallowed and 6,000 acres cropped and Sorell had 1,079 acres in bare fallow and 18,360 acres in crop. Bare fallow is only a second rate substitute for proper rotation and manuring. This explains why only 404 acres were fallowed at New Norfolk. However, the 1870-71 acreage was probably as unreliable as earlier acreages given, especially as cultivation was dropping off as a result of low prices and high wages, (1) and in 1870 there were farms in the south standing idle and overgrown. (2)

Although the statistics are unreliable they do show the trend for rotation in districts where rainfall and soils permitted considerable cultivation of both root and grain crops (i.e. on the North West Coast and in Deloraine.) Because of their original heavy timber cover, farms in these districts were generally small. Land was fallowed where farms were large, the use of machinery practicable and proper rotation difficult because natural conditions favoured only grain and hay.

The Government Statistician stressed the farmer's need for systematic instruction in modern scientific methods of farming after the example set by agricultural societies and government subsidized bodies active in Victoria, U.S.A.,

(1) Agricultural Report, Statistics of Tasmania, 1869, see Collectors' Reports: Statistics of Tasmania, 1870, see Collectors' Reports.

Canada and Ireland(1) and he commended New Norfolk hop-growers for forming an association among themselves to collect and impart information. He claimed that there was a noticeable improvement in their methods following the formation of this society. However, this was a small group embarking on new specialized activities and their advantage was not entirely one of superior knowledge. Bare fallow, better cultivation and greater use of machinery was possible for farmers with large acreages of cleared land and greater capital resources, but impossible for small farmers with insufficient cleared land for fallowing and if they could not afford horses. On small North West Coast farms rotation was practicable and was soon adopted. Nevertheless, existing agricultural societies might have achieved more than they did.(2) E.N.G. Braddon, who was to become a prominent politician, remarked in 1878 in a letter to the Indian papers that the agricultural society on the North West Coast was a beautiful myth, rhapsodized about but never seen.(3)

The use of machinery in agriculture is an index of prosperity and capital. Machinery and horses were heavy investments. Much more use was made of farm machinery in the late 1860's as a result of labour difficulties, but no

Braddon, E. "Letters to India", Letter XXV, Braddon Papers. Copies of letters published in Indian papers held in University of Tasmania Library, Archives.
comparative measure can be made as figures for machinery were not collected until the end of this period. The horse power thresher is therefore mentioned at the same time as the steam, although it had been known long before.

An extensive use of machinery was late developing in Tasmania. In 1866 four fifths of South Australian wheat was machine harvested but in 1869-70 only one twentieth of Tasmanian wheat was reaped by machine. The following year, however, a fifth of the crop was machine reaped. The stripper, which efficiently co-ordinated reaping and threshing, proved of little use in Tasmania's damp climate. Only one (in the Evandale district) was reported in 1870-71 and was not necessarily in use. Tasmanian farmers had to use both reapers (or reapers and mowers) and threshers, a longer and more expensive method of harvesting. This machinery was only practical on fairly large, level, well cleared farms. Stumps and other impediments in the soil limited its use in the pioneer (originally heavily timbered) districts. (1) Harvesting machinery paid because it saved time, labour and avoided loss in bad weather. On small holdings, however well cleared, there was no saving in time by using machinery which took hours to get ready. (2)

(1) Agricultural Report, Statistics of Tasmania, 1870, report of the Collector for Port Sorell.

(2) Mr. K. Dallas, Dept. of Commerce and Economics, University of Tasmania, interview.
Furthermore, small farmers seldom possessed the necessary horses and capital. There were no reapers and mowers on the North West Coast or in the Franklin district.

Harvesting machinery was concentrated in the South, Midlands and, in particular, the northern districts, the leading agricultural districts which also had the advantage of more level terrain than was general in the south. There were eight reapers in the Longford district, five in the Westbury district, four in Deloraine and four in Evandale. Sixteen of the South's twenty three reapers were in the Glamorgan district, the remainder scattered around the other southern districts.

The reaper and mower was a machine with a gear which adjusted the height and speed at which the blade worked, thus permitting its use for mowing crops such as clovers and hay at ground level. Of a total of eighteen, nine were in the south, five in the Midlands and only three in the North. However, of the eighteen mowing machines in Tasmania in 1871, ten were in the North. Seven of these were in Westbury. Of the five in the South, two were in the Brighton district, two in Clarence.

Steam power was common for threshing by 1870, especially in the north. The travelling steam thresher was widely used, but its use was not without difficulties. Mechanics were required to operate the machines and in some cases had to be sent out from England with the machines. (1)

(1) Mr. Cutts, Cutts Rd., Devonport, interview; Mr. K. Dallas, interview.
There was a travelling thresher at Port Sorell but in this district the roads were so bad it was almost impossible to move it: "its usefulness is therefore very much limited indeed." (1) The steam thresher was also used for chaff cutting, haulage and wood cutting. As the demand for horse feed rose its importance as a chaff cutter increased.

The greater prosperity and the more recent increase in agriculture in the north accounted for the location of 34 of the state's 47 steam threshers in this region in 1870. Westbury had eleven steam threshers and ten horsepower threshers and Longford twelve steam and eighteen horsepower threshers. The South had only five steam threshers, of which four were in Sorell. The South (excluding Franklin), on the other hand, had 86 of the State's 205 horse power threshers. Fourteen were in the Brighton, twenty-four in the Glamorgan district; Sorell, with its four steam power threshers, had only three horse powered machines. Richmond had one steam power and nine horse power threshers. Port Sorell had ten horse power and one steam power, Horton six horse power and three steam power, the North East, twenty horse power and the Midlands twenty four horse power and three steam power threshers.

Machinery for cultivation and ploughing was less advanced, but Tasmania was not exceptional in this. Westbury

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(1) Agricultural Report, Statistics of Tasmania, 1870, report of the Collector for Port Sorell, 1870.
led with 54 of the state's 108 cultivators. Eighty six were in the northern districts and only seven cultivators were in the south. Horse power clod crushers, hay rakes, hoes, grubbers and scarifiers were fairly extensively used. So, too, were seed drills. Sowing with drills was not practised to any great extent anywhere in Australia before 1900, according to Francis Wheehouse, although drills were extensively used in the United Kingdom and United States of America. Drilling was considered too slow by Australian farmers and as the sowing period was limited and more horsepower required, farmers resorted to the readier method of broadcasting seed. None the less the 1871 returns show that its use in Tasmania was not altogether uncommon except in the pioneer districts. Of the 93 seed drills reported in the returns for that year 42 were in use in the south, 36 in the north. Westbury, with 20, had the largest number. The drills deposited seeds at an equal distance apart. This ensured sufficient nourishment for each plant, and sturdy plants resulted. Air circulated more freely between rows and drilled wheat withstood rust better than broadcast seed. Fertilizer could be deposited along with the seed.

In 1870 many instances were reported of grain perishing for want of drainage. The problem was greatest on

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(1) Wheehouse, *Digging Stick to Rotary Hoe*, pp. 30-34.

(2) Ibid.
tenanted land where leasehold did not justify expenditure. (1)

In the 1860's irrigation was undertaken for hopgrowing and orcharding and New Norfolk, with four of the total nineteen irrigation works, had the largest number in any district. Apart from this use there was little extension of irrigation. It was only possible on flat land, of which there was little in newly developing regions and such drainage as was considered profitable in other regions had generally been accomplished in the days of convict labour, for example at Lawrenny and Denistown, where over 1,000 acres were watered from tributary streams, and at Mona Vale, near Ross. In 1860 a Select Committee met and a number of witnesses were called. It was concluded that drainage was a matter for private not public expenditure and was advantageous but unattainable. (2)

It is apparent from the returns that machinery was becoming common in the northern and southern districts, and to a lesser degree on the pastoral estates of the Midlands and North East, where cultivation was largely for domestic purposes. Conditions in pioneer districts were not sufficiently advanced to permit much use although a few horsepower and steam threshers were in use. Soil preparation, sowing and reaping remained a manual task in these districts.


Clearing sufficient land to chip in a crop by hand was arduous and it took many years to clear land properly of stumps, roots and stones in sufficient quantities for much machinery to be used.

Machinery would not have been used unless agriculture paid. The Government Statistician in his 1866 report strongly urged greater use of machinery and steam power to offset the scarcity and high cost of labour lest Tasmanian farmers "be left behind in the race of progress". However, unless prices warranted this transition it would not have been made. The considerable use of steam for threshing in the North shows a relative degree of economic well-being in this region. Although much use of machinery was not yet possible in the pioneer districts many farmers in the north and south had advanced far beyond the situation in the 1840's when horses were only beginning to be used for ploughing. The use of seed drills by some farmers in advance of the general Australian system indicates some fastidious attention to farming technique.
Chapter VI

Population, Population Movement and Labour Shortage
Table 14.

Population in Census Years. (1)

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<thead>
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<th>Census</th>
<th>Persons</th>
<th>Male</th>
<th>Female</th>
</tr>
</thead>
<tbody>
<tr>
<td>31 Dec., 1847</td>
<td>70,164</td>
<td>47,828</td>
<td>22,336</td>
</tr>
<tr>
<td>1 March, 1851</td>
<td>70,130*</td>
<td>43,127</td>
<td>25,482</td>
</tr>
<tr>
<td>31 March, 1857</td>
<td>81,432*</td>
<td>45,916</td>
<td>34,886</td>
</tr>
<tr>
<td>7 April, 1861</td>
<td>89,977</td>
<td>49,593</td>
<td>40,384</td>
</tr>
<tr>
<td>7 Feb., 1870</td>
<td>99,328</td>
<td>52,853</td>
<td>46,475</td>
</tr>
</tbody>
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* includes 953 military, women and children and 568 convicts, sex not distinguished in 1851, and 630 military population in 1857.

One of the most significant aspects of Tasmania's development between 1840 and 1870 was the loss of men who by age should have been the producers of her wealth. There had been a steady outward movement from the time of Port Phillip's settlement which swelled in the late 1840's following a temporary job shortage. Mainland colonies were developing while Tasmania's established farming districts stagnated. Men were attracted by the greater opportunities in developing colonies and many received assistance in emigrating from prospective employers. Port Phillip attracted the majority, especially the ex-convicts, while others (the majority of those who had arrived free) departed for Sydney, Adelaide and other places. In 1847, 1,975 ex-convicts and 1,763 persons who had arrived free (including the military) left Tasmania. The census of 1851 showed a decrease of 4,700 males on the 1847 return and news of gold discoveries in neighbouring colonies drew off many more after the census.

(1) All figures unless otherwise stated are derived from the official statistics for the years given.
Wages rose by 25 to 33 per cent, and in some cases by as much as 50 per cent. Employers maintained that wages were in fact higher than the figures showed, as most of the really competent men left and higher wages were paid to inferior men. (1) By 1857 male population had picked up somewhat as a result of natural increase, immigration and the return of some men from the diggings. Male population was still, however, 2,000 lower than in 1847. There was only a 5,000 increase in males between 1847 and 1870.

During these years the number of men of productive age declined. There were approximately 33,000 males between the ages of 14 and 45 in 1847, and approximately 22,000 aged 14 to 49 in 1871. (2) In 1847 68.7 per cent of all males were aged 14 to 45 years, in 1861 49.7 per cent were between the ages of 15 and 49 years and in 1870 only 40.6 per cent. In 1847 19.6 per cent of all males were under 14 years and 11.8 per cent were over 45 years. By 1870 40.4 per cent were under 15 years and 19 per cent were over 50 years. The proportion of 'productive' males to total male population (40.6 per cent) was remarkably low for a new colony. Even in England and Wales 49.2 per cent of the male populations were between the ages of 14 and 45 years.


(2) Only 68.7 per cent stated their age in these returns so this is an estimation.
Farm labour was hard to get in the late 1860's. Not only were able men leaving the state, but many men with young families but little capital (i.e. potential farm labour for established farming regions) had shifted into the heavily timbered pioneer regions where, with their families' assistance, they gradually cleared their own small farms. The only developed area able to hold them was the north. Men were lost to the growing states and, within Tasmania, to the new districts.

The region with the largest number of children to adults was the North West Coast, especially Horton, which had 521 adults to 225 children. The northern districts - the leading agricultural region - came next. There were relatively few children in the Midlands, East and South. Richmond had nearly five adults to one child and Great Swanport (Swansea, on the East Coast), Oatlands and Hamilton had four adults to one child, while New Norfolk, Fingal, Campbell Town and Bothwell had only slightly less. All districts in these regions had more than three adults to one child, and must to some degree have appeared districts deserted by the young.

Although export earnings per capita fell after the boom prices of the early 1850's, they were still higher in the five years 1866 to 1870 than in the five years 1846 to 1850. They were earned by two thirds the numbers of men in the productive age group. Export earnings per capita
in 1846 to 1850 averaged £7.8, largely earned by the approximately 33,000 males in the 14 to 45 years age group. Per head export earnings between 1866 and 1870 averaged £8.1 while there were less than 22,000 men in the 14 to 49 age group.

The increase in export earnings, despite the loss of men of working age, indicates less improvement in agricultural techniques in the established regions of north and south as the new importance of products from small pioneer farms in the developing regions. In 1848 wool earned 39.8 per cent of total exports; in 1870 38 per cent. Grain crops and by-products brought in 20.7 per cent of total exports in 1848, in 1870 only 13.4 per cent. Fruit, potatoes and other vegetables, in 1870 exported largely from the new districts, rose from 2.2 to 15.2 per cent of total exports and timber exports rose from 4.2 per cent to 5.7 per cent, although were much higher between 1848 and the late 1850's. Hops exports suddenly became important in the late 1860's and in 1870 represented 4.1 per cent of total export earnings.

The greatest development in the late 1860's in population and in agriculture was along the North West Coast. In nine years the population of the 80 mile strip from Port Sorell to the Duck River (Smithton) rose from 5,416 to 8,824, a 66 per cent increase. Settlement was mainly concentrated between Port Sorell and the Forth, stretching back to Sheffield where a population of 4,700 had settled.
by 1870. This was a mixed farming region and an important hub in the timber industry. Population was more scattered further west except at Stanley, which was the largest town north of Deloraine.

The northern plains districts were the most prosperous agricultural districts. Cash cropping on pastoral estates in Longford provided wide employment. Further west wool-growing and fat stock raising were important, and tenant farming was common in these districts. There were many tenant farmers on the Quamby Estate near Westbury and on the Whiteford Hills Estate, another large holding with good agricultural land near Deloraine. The breaking-up of the vast Field estate, much of it excellent agricultural land but previously given over to cattle, brought many to the district. As rainfall was heavier on the western fringe of the grassland plains, a variety of crops was possible and settlement gradually impinged upon the verging forest land. The northern plains, extending from Evandale in the east to Chudleigh (near Deloraine) in the west, held one fifth of Tasmania's population.

In the south, defined by Geoffrey Blainey by a line from Swansea (Great Swanport) to Tunbridge, most districts were stagnant by 1870 and much previously tilled land overgrown with scrub. Only four districts, Oatlands, New Norfolk, the Huon and the Channel ports retained all or most of their natural increase. The remaining districts of the south lost all or most of their natural increase. "As more
than one half of Tasmania's population lived in the depressed south of the island, the situation was serious."(1)

The agricultural potential of the south was exploited before 1840: with the loss of the commissariat market, depressed agricultural prices and high cost of labour there was little profit in wheat growing in the south by 1870 and crop acreage stagnated. Wheat growing for export shifted north. Most of the south was not well suited to fat stock raising and competition with imported beasts was unprofitable. In most southern districts more attention was given to wool and less to cropping.

At New Norfolk, co-ordinated mixed farming was possible on a few farms where fat stock, hops, orchards, wool and crops provided a diverse income. In Oatlands, a district of podzolic and brown soils with alluvial soils on the valley floors, several estates were broken up and let to tenant farmers, some on improving leases. Stock were fattened on the salt pans and the excellent macadamized road intersecting the district from north to south facilitated marketing. The other southern districts to retain their natural increase were in the forested pioneer region of the South East where the acreage under orchards and soft fruits was rapidly extending.

The existing difficulties of the south were increased, especially when markets were depressed after 1867, by the problems of getting good, cheap labour. The better labour-

ers would not work for low wages because they could find alternatives. In 1867 shepherds were paid £2 to £2/10/- per month, reapers and mowers at piecework rates averaging 7/- and 3/6 an acre, ploughmen and general farm labourers 8/- to 10/- per week, all with board or rations and lodgings. (1) In Victoria shepherds received £30 to £40 per annum, ordinary farm labourers 15/- to 20/- per week, and men skilled in the use of reaping machines (in general use in Victoria by 1867) received 5/- per day with board and lodgings. (2) Tasmanian farmers could not pay these wages.

The problem was the lack of skilled men at a cheap enough rate. There was no lack of indifferent workmen. During the 1860's there was considerable unemployment in Hobart which was relieved somewhat at harvest time when urban unemployed found seasonal work on farms. (3) Between 1860 and 1870 no industrial progress was made. (4) Wages in Launceston were about 1/- a day higher than in Hobart in most principal trades. This was due, it has been claimed, not only to greater demand, but to the number of ex-convicts in Hobart whose work was "slovenly and unintelligent". (5) However, in the rural districts, as we

(2) Ibid., p.1045.
(3) Ibid., p.1083.
(4) Ibid., p.1085.
(5) Ibid., p.1084.
have seen, the issue was less that of the workman's origin than of the relative prosperity of farming. Where farmers could afford higher wages good farm labourers were to be had. Where farming was less profitable the workmen available were inferior, and employers complained. As a result of the difficult labour situation, southern farmers let cropped land lapse and concentrated on woolgrowing. In the north and a few places in the south where cropping paid, more use was made of machinery.

Many who continued as farm labourers in the 1850's did well for themselves. H.M. Hull told of the comfortable huts, good wages and unlimited mutton chops of the shepherds in the prosperous Clyde Valley. In 1857, when he was manager of the Savings Bank at Bothwell and Hamilton, one shepherd brought in to the Bank his cheque for £120, another for £100, while those paying in from £10 to £20 were 'not a few.' (1) Perhaps these thrifty labourers were saving towards their own small property in the pioneer districts.

By no means all shepherds and farm labourers were thrifty, especially the older ex-convicts, the 'old lags.' There was a large proportion of incorrigibles among the labouring class, for whom the drunken spree was the reward and alternative to labour. This was the way of life they had known in the mother country and many felt no need of a

new goal or way of life in the colonies, either as convicts or as free men. The solitude of the shepherd's existence may have encouraged this way of life but it seems to have been common in more populated districts also.\(1\) A Mercury columnist in 1858, having described Bothwell (the district to which Hull referred) as a 'quiet, unexpanding township ... distant from the metropolis about forty five miles ... the lifeless, soul-less city of the interior', told of giving a lift at Cluny to an ex-convict stock-keeper. He "was then proceeding to his station at the Great Lake Plain, having just finished a drunken debauch of about a fortnight's duration ... an event which the working classes of Tasmania look forward to with the same solicitude that the school boy does his holidays."\(2\)

Much space in newspapers and time in Parliament was devoted to the question of land legislation in the hope of retaining the colony's youth by settling young men on the land. No legislation, however, could make farming profitable when markets were slack. Many young married men were attracted into the bush, mostly men of little capital on whom established farmers of the older regions had depended for labour. Those who hoped for more than a hard life and small beginnings departed for the growing colonies.

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\(1\) Skemp, J.R., Memories of Myrtle Bank, (Melbourne, 1952), pp.61-3.

\(2\) Mercury, 10 July, 1858.
SECTION C

Farming in Tasmania

1870 - 1914

UTAS
Chapter 1.

The Fruit Industry 1870 - 1914
SECTION C.

Ch. 1. The Fruit Industry, 1870-1914.

(i) The Market for Apples.

Until the 1890's fruit for export was ungraded and casually packed. Fruit was sorted, the "chats" (rejects) separated from the "markets" which were poured into a split paling case. This was shaken down, then nailed up. (1) Most of the fruit was consigned with the steamship captain who sold it on arrival in Hobart. Buyers for the overseas market purchased from the river steamer and the money was paid to the grower on the steamer's return trip. (2)

For the five years 1866-1870 the average annual value of fruit exported was £87,100. (3) The Victorian tariff (9d in 1879, rising to 1/6 per case later) thereafter crippled this market but this was offset by the expansion of the Sydney market and exports continued to increase. The annual average value of fruit exported rose to £95,200 for the five years 1871 to 1875, £144,000 between 1876 and 1880 and for the five years 1881 to 1885 averaged £168,500 per year. In 1881 £26,500 worth of fruit was exported to New South Wales, £19,100 worth to

(1) Centenary ... of the Huon, article "Apple Land of the Commonwealth".

(2) Ibid.

(3) All figures unless otherwise stated are from the published Government statistics of the years given.
South Australia and £9,200 worth to Victoria.

After the mid 1880's increased competition from locally grown fruit and new tariff restrictions reduced the profitability of these markets also. In 1887 South Australia imposed a 9d tariff, Western Australia a 10 per cent duty, and for a short time New South Wales maintained a 9d per case duty. In 1888 New Zealand set a 1d per pound tariff. Victorian tariffs rose to 1/6 per case. (1) The average annual value of fruit exports between 1886 and 1890 was only £132,300 compared with the £168,500 average for the previous five years, although the quantity of fruit sent to the colonial markets increased from 200,000 bushels in 1880 to 500,000 bushels in 1890.

In 1884 one hundred cases of apples were consigned by steamship through Melbourne to London, and other exports followed. In 1887 a shipment of Tasmanian apples was sent to England in refrigerated holds. The first of these shipments were inedible as the holds were refrigerated for meat and the apples were frozen solid. It took several years of trial and error experiment to ascertain the temperature and ventilating conditions suitable for fruit. It was not until the Durham trial shipment of 1907 that it was proven that the ideal conditions for cold storage of


(2) Ibid., p.62
apples was a constant 33° temperature with air well circu-
ulated by fans but not changed. (1) This trial improved
the quality of apples received in London and made practic-
able the export of pears.

The firm George Peacock and Sons, which combined jam
manufacturing with fruit exporting and consignment on
behalf of those growers who preferred to sell on the
market, was largely responsible for obtaining refrigerated
space on the mail steamships in 1887. This firm was also
responsible for arranging in 1890 for mail steamships to
call direct to Hobart. Previously refrigerated shipments
were transshipped through Melbourne, which increased char-
ges and damage to the fruit by handling. In 1890 three
mail steamers called in Hobart and 24,411 cases of apples
were lifted. (2)

The English trade developed rapidly. Owing to London's
import trade with South America there were existing fac-
ilities for handling fruit, and the arrival of Tasmanian
apples between April and August was opportune. There was
no competition on this market in those months. (3) In
1901 a shipment to Germany initiated trade with Europe. (4)

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(1) Centenary ... of the Huon, article "Romantic Industrial
Achievement, Life Story of Sir Henry Jones."

(2) Ibid. See also Sec. C, Ch. 1, ii.

(3) Goodhand, Pome Fruit Industry, p.65.

(4) Ibid., p.66.
On the local scene, however, development was stormy. One or two large exporting firms, agents for English brokers, monopolized refrigerated space on the mail steamers and growers felt this monopoly was to their disadvantage. The Council of Agriculture, formed in 1892, took their part. Growers received 2/- to 3/- per case for apples which sold in London at 15/-. (1) Freight rates alone were 4/6 per case - "out of proportion to the ordinary value of the article." (2) In 1894 fruitgrowers paid upward of £24,000 in freight alone. (3) One grower, however, in 1893 shipped direct to the consumer and got an average of 17/- to 20/- a case, (4) which seemed to growers to substantiate their case against export firms and brokers.

The attempt of growers and Council to circumvent existing export channels was not an easy one. Shipping companies other than mail lines were prepared to offer cut rates (3/9 per case) but cool space in these vessels was adapted to meat storage and not suited to apples. Companies were not prepared to meet the full cost of

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readjustments for so brief and specialised a trade(1) and required a guarantee that carriage and other costs would be met if London prices were below expectation. Finally a 3/9 per case guarantee was obtained by growers and the Council from the Government(2) and shipments were made. This competition forced exporting firms to obtain a reduction in charges from the mail steamship companies. Freight rates fell from 4/6 per case in 1895 to 2/4½ per case by 1904,(3) greatly facilitating the growth of the overseas fruit trade. (4)

Even so, the organization of facilities was not the sum of problems. The English market required high grade fruit and the reputation of the Tasmanian export depended upon the marketing of only the best fruit by all growers. Many growers, however, were persistently individualistic. A flagrant example occurred with the crucial shipment organized by Council and growers referred to above. A Council member was appointed to inspect all fruit consigned with this shipment to ensure that the fruit was up to standard. He turned down the fruit of a fellow Council

(3) Centenary ... of the Huon, article, "Romantic Industrial Achievement: Life Story of Sir Henry Jones."
member. The local press reported this as an effort by a Council member to sabotage the endeavour and the matter was taken up in the Council with reporters present. The erring member lost his temper and passed some vitriolic comments to the effect that he considered the Council member acting as inspector had no public or official capacity whatsoever and that he had the right to consign "any rubbish" he chose.\(^1\) It was not easy to organize growers in schemes to their advantage.

The average annual value of fresh fruit exported between 1901 and 1905 was £235,700 and £245,600 in the following four years. The removal of tariff restrictions between Australian states following the Act of Federation allowed some expansion on colonial markets. Interstate markets, however, did not have the potentiality for expansion promised by overseas markets which between 1910 and 1914 were consolidated, providing the chief outlet for Tasmanian apples.

Overseas exports in the four years 1910 to 1913 were worth an average of £157,900 per year. There were no official statistics collected showing interstate exports of fruit after 1909 but the Fruit and Forestry Expert estimated that in 1911-1912 876,813 cases of green fruit were shipped overseas and 639,723 shipped

\(^1\) Journal of the Council of Agriculture, Feb. - March, 1895.
interstate. (1) It was claimed in the *Agricultural Gazette* that 612,523 packages were exported overseas and 391,724 shipped interstate in 1913, and that in 1914 951,722 packages were exported overseas and 878,500 shipped interstate. The difficulty in obtaining an exact figure was emphasised. (2) Although the quantities for 1911-12 differ from those for 1913 and 1914, being stated in cases, the figures are probably comparable as containers, at least those for overseas export, were standard. In 1911, at the National Fruitgrowers' Conference held in Brisbane, the Tasmanian "dump" case was accepted as standard for all Australian overseas fruit exports, (3) thus settling a question that had vexed fruitgrowers for some years.

(ii) **The Manufacture and Export of Jams, Pulp and Dried Apples.**

As we have seen, jam manufacturing was of some small importance by 1870. Factory demand for soft fruits stimulated large cultivation on the mixed farms of the New Norfolk district and gave seasonal employment to hundreds of men, women and children who packed the river steamers in the fruit picking season. Soft fruits were also grown extensively by pioneer farmers in the Franklin

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(2) *Agricultural Gazette*, 1913-14, p.28. "The Tasmanian Fruitgrowers Union".

and Kingborough districts of the timbered South East. Here they provided a cash crop till sufficient land was cleared for dairying. (1) In the Huon soft fruit and timber provided income until orchards matured. (2)

Water transport was critical for the jam industry. There were frequent steam services to Huonville, Dover and New Norfolk, and jam factories were at the port. Raspberries were sent in in open-ended barrels covered with sacking (3) and the Hobart wharves reeked with raspberries in January and February.

The leading jam manufacturers were George Peacock and Sons, who greatly extended the jam export trade in the 1870's. By the 1880's this firm had branches and agencies in Hobart, Melbourne, Sydney, Brisbane and Dunedin (N.Z.). In 1892 it was taken over by Jones and Co. and became involved in the hop industry and in 1903 co-established the Rostrevor orchard near Triabunna, for many years the largest commercial orchard in Tasmania (450 acres). (4)

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(1) Agricultural Report, Statistics of Tasmania, 1876, report of the Collector for Kingborough.


(3) Mr. K. Dallas, Dept. of Commerce and Economics, University of Tasmania, interview.

(4) Centenary ... of the Huon, Article "Romantic Industrial Achievement: Life story of Sir Henry Jones": Goodhand, Pome Fruit Orcharding, p.51. See also Sec. C, Ch. 1, i. Sir Henry Jones also had timber and tin interests.
<table>
<thead>
<tr>
<th>Year</th>
<th>Total Quantity Exported (000 lbs.)</th>
<th>Exports to Principal Markets (000 lbs.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1871</td>
<td>1,553</td>
<td>N.S.W. (714)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>N.Z. (430)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Vict. (364)</td>
</tr>
<tr>
<td>1875</td>
<td>2,852</td>
<td>N.S.W. (1,566)</td>
</tr>
<tr>
<td></td>
<td>(875,500)</td>
<td>N.Z. (977)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Vict. (251)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Queens. (50)</td>
</tr>
<tr>
<td>1880</td>
<td>3,424</td>
<td>N.S.W. (2,209)</td>
</tr>
<tr>
<td></td>
<td>(832,200)</td>
<td>N.Z. (1,046)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Queens. (70)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Vict. (59)</td>
</tr>
<tr>
<td>1885</td>
<td>2,742</td>
<td>N.S.W. (2,308)</td>
</tr>
<tr>
<td></td>
<td>(597,700)</td>
<td>N.Z. (178)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Queens. (154)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Vict. (97)</td>
</tr>
<tr>
<td>1890</td>
<td>827</td>
<td>N.S.W. (643)</td>
</tr>
<tr>
<td></td>
<td>(142,200)</td>
<td>Vict. (135)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Queens. (35)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>N.Z. (14)</td>
</tr>
</tbody>
</table>

Jam exports to other colonies were subject to the same influences as fresh fruit exports, as may be seen in the associated table. The rapid growth of the New South Wales market was followed by the limiting effects first of the Victorian tariffs and then, after 1887, the duties imposed by New Zealand and Queensland and the raised Victorian tariff. Jam exports picked up a little in the 1890's (being valued at £26,000 in 1896) but the earlier figure was not exceeded until after Federation. In 1890 jam and pulp absorbed less than one million pounds of fruit, in 1900 more than five million pounds
and by 1904, eleven million pounds. Jam exports were valued at £85,000 in 1906, £143,000 in 1909. Between 1909 and 1914 £1,000 to £2,000 worth was exported overseas annually.

Exports of preserves, pulp and juices also soared after Federation. Valued at only £3,000, in 1900, these exports were worth nearly £54,000 by 1905. Overseas exports were made, but the value of these items as given in the official statistics fluctuated greatly. In 1912 they were valued at nearly £20,000, but only £2,000 the following year.

The dried apple industry resulted from the outbreak of black spot in the Huon orchards in the 1890's. The first successful evaporator was built in a Huonville orchard in 1896 and two years later, when the ravages of black spot made large quantities of waste apples available, two more were built on the patented model. (1) There was little incentive for further expansion until 1901. The tariff on all dried fruit was 3d. per pound and American dried apples held the market. Business was only profitable when the price of green apples was low. (2) With the removal of the tariff between Australian states (but operative against imported American

(1) Centenary ... of the Huon, article by E. Linnell, "Dried Apple Industry."

(2) Ibid.
dried apples) business extended and in 1910 the Huon factories adopted the American Kiln Evaporator which permitted a very high degree of mechanization and higher production. (1) Jones and Company were the sole selling agents for all factories and an association of owners fixed the selling price each year. (2)

(iii) The Expansion of Fruitgrowing.

After 1870 plantings continued to be made along the Huon. Within two decades plantings were well established along the D'Entrecasteaux Channel and early plantings were coming to maturity. Plantings also extended along the Derwent as far back as the Hamilton district. There were small fruitgrowing centres along the Lower Derwent on both sides of the river, at Glenorchy, Bismark (Collinsvale), Moonah and New Town on the western shore, at Bridgewater, Risden, Lindisfarne, Bellerive, Rokeby, Sandford and South Arm on the eastern shore. (3)

In the lower Midlands and South East commercial plantings were made at Bagdad, Kempton, Richmond, Colebrook, Cambridge and Sorell. While in other districts access was provided by river steamer, here development was facilitated by the construction of the railway. (4)

(1) Ibid.
(2) Ibid.
(3) Goodhand, op. cit. p. 47.
The full extent of plantings between 1870 and 1890 are not revealed in production figures as many commercial orchards in this area were only coming into bearing by 1890. Between 1870 and 1890 production in the Brighton district increased only from 4,000 to 10,000 bushels, in the Clarence district, from 2,000 to 8,000 bushels and the Glenorchy district from 8,000 to 23,000 bushels. Production in the New Norfolk district, where the first commercial plantings were made, rose from 10,000 to 53,000 bushels in these years.

Table 16. Apple Production (bushels) - 1867-1890.

<table>
<thead>
<tr>
<th>Principal Districts</th>
<th>1867</th>
<th>1870</th>
<th>1875</th>
<th>1880</th>
<th>1885</th>
<th>1890</th>
</tr>
</thead>
<tbody>
<tr>
<td>Brighton</td>
<td>62</td>
<td>35</td>
<td>28</td>
<td>29</td>
<td>74</td>
<td>95</td>
</tr>
<tr>
<td>Clarence</td>
<td>20</td>
<td>20</td>
<td>17</td>
<td>23</td>
<td>47</td>
<td>82</td>
</tr>
<tr>
<td>Franklin/Huon</td>
<td>134</td>
<td>252</td>
<td>283</td>
<td>477</td>
<td>1,138</td>
<td>1,988</td>
</tr>
<tr>
<td>Hobart/Kingborough</td>
<td>302</td>
<td>390</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Kingborough</td>
<td></td>
<td>63</td>
<td>78</td>
<td>147</td>
<td>224</td>
<td></td>
</tr>
<tr>
<td>Hobart*</td>
<td></td>
<td>341</td>
<td>279</td>
<td>352</td>
<td>138</td>
<td></td>
</tr>
<tr>
<td>Glenorchy</td>
<td>74</td>
<td>79</td>
<td>92</td>
<td>137</td>
<td>280</td>
<td>230</td>
</tr>
<tr>
<td>New Norfolk</td>
<td>86</td>
<td>103</td>
<td>106</td>
<td>222</td>
<td>323</td>
<td>528</td>
</tr>
</tbody>
</table>

* in 1890 included the new districts of New Town and Queenborough.

Between 1890 and 1914 apple production in the New Norfolk district rose from 53,000 bushels to 242,000 bushels and in the Glenorchy district from 23,000 bushels to 116,000 bushels. Production in the Brighton district rose from 10,000 bushels to 91,000 bushels, in the New Town district from 7,000 bushels to 37,000 bushels and in the Green Ponds district production increased from 2,000 bushels to 26,000 bushels. Similarly, in Richmond
there was an increase from 1,000 to 22,000 bushels, and in the Hamilton district production rose from 4,000 bushels to 17,000 bushels between 1890 and 1914. Orcharding provided a most valuable secondary income for farmers when the prices for other products were low.

After 1890 plantings continued to be made in the South East. As trees matured orcharding became the chief agricultural pursuit in the Huon and Kingborough districts and plantings were made on Bruny Island. In 1890 the South East consisted of the Huon and Kingborough districts, which together produced 221,000 bushels of apples in the 1890-1891 season. In 1900-1901 these districts produced 300,000 bushels, while in the 1913-1914 season, together with the newly created Port Cygnet, Esperance and Bruni districts, they produced 1,076,000 bushels of apples as trees planted in the 1890's came into bearing.

Plantings were made and extended along the East Coast of Southern Tasmania. The Rostrevor orchard near Triabunna (Spring Bay), established by E.A. Peacock, Sir Henry Jones and T.A. Francomb, was the largest commercial orchard in Tasmania. (1) Production from orchards in the Clarence, Sorell, Spring Bay and, in 1913-1914, the Tasman Peninsula districts rose from approximately 10,000 bushels in 1890-1891 to over 100,000 by 1914.

(1) Centenary ... of the Huon, Article "Life Story of Sir Henry Jones."
Prices for orchards rose steeply as a speculative element appeared. After the development of the English market shipping agents and merchants bought in and it became fashionable for local professional and business men to purchase as an investment for retirement. In 1900 a full bearing orchard was worth £100-£250 per acre compared with the present day value of £90-£120 per acre (1).

In 1904 a speculative orchard land boom was initiated in the north, largely as a result of the activity of the Tamar Harbour League which was formed in the previous year to promote trade in the North (2). Land companies based in Launceston bought up cheap land on the Tamar, partly cleared it, then subdivided and laid out orchards which they undertook to tend until purchasers arrived to take possession. Agents were sent abroad to recruit overseas capital, especially from Anglo-Indians seeking a pleasant and profitable place for retirement. This also occurred at Spreyton on the Mersey. In all, some £500,000 was invested in orchards in these two districts (3).

The Government was directly involved in these enterprises. The Fruit Instructor supervised the planting and care of many orchards. In his 1912-13 report he estimated that 1,000 acres of new plantings would be

(2) Goodhand, *Pome Fruit Orcharding*, p.52.
(3) Ibid., pp.52-53.
set out that season and stated that trees planted for absent owners, chiefly Anglo-Indian, were under his care. By 1910 the main policy in immigration was to attract potential orchard owners. Little effort was made to recruit labourers, but the sons of professional men or merchants in India or England who possessed a little capital were eagerly sought. They were ill fitted for the pioneer role but apple-growing was regarded as "the aristocrat of agriculture" and many Anglo-Indians were interested.

Northern orchards were cleared, fenced and planted at great speed and with insufficient regard for suitability of site. Poor drainage, wind exposure or hard pan soil formation forced owners to abandon many orchards. Northern Spry blight proof stock were used but proved unsuited to Tasmanian conditions. Trees were small, too widely spaced and under open conditions tended to poor root anchorage.

(2) Annual Report of Secretary for Immigration, Agricultural Gazette, 1911-12, p.17.
(4) Orchards in the Spreyton district which have survived are on Permian soil with a shallow top soil of grey loam and a clay bottom. Rainfall 32". Mr. Viney, Spreyton (fruitgrower and buyer), interview.
(5) Goodhand, Pome Fruit Orcharding, pp.56-57.
Absentee ownership produced other problems. Many orchards were poorly tended and management costs were excessive. Some absenteeees became unfinancial and never arrived to take possession, others came and, having seen their investment, departed. A few tried to make their orchards pay but failed, largely owing to lack of experience. (1) Boundary changes in these years makes close comparison of production in these districts impossible. Table 17 merely indicates that many trees planted after 1905 were coming into bearing and that the North was once more an important orcharding region.

Table 17.

<table>
<thead>
<tr>
<th>Apple Production (bushels) 1890-1914</th>
</tr>
</thead>
<tbody>
<tr>
<td>-00 bushels</td>
</tr>
</tbody>
</table>

A. Huon Valley and Neighbouring Districts.

<table>
<thead>
<tr>
<th>Districts</th>
<th>1890-1</th>
<th>1895-6</th>
<th>1900-1</th>
<th>1905-6</th>
<th>1913-14</th>
</tr>
</thead>
<tbody>
<tr>
<td>Huon</td>
<td>1,988</td>
<td>2,548</td>
<td>2,710</td>
<td>4,380</td>
<td>4,511</td>
</tr>
<tr>
<td>Port Cygnet</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>3,078</td>
</tr>
<tr>
<td>Esperance</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>1,727</td>
</tr>
<tr>
<td>Kingborough</td>
<td>224</td>
<td>240</td>
<td>289</td>
<td>343</td>
<td>1,362</td>
</tr>
<tr>
<td>Bruni Is.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>84</td>
</tr>
</tbody>
</table>

(1) Ibid.
Orchard management became increasingly sophisticated after 1870. Orchardists had the stimulus other agricultural producers lacked - an expanding and apparently unlimited overseas market. Freight and other charges, however, were high and profits depended on the grower’s yield. In years of low prices the orchardist with an average yield no more than covered his costs and only the orchard-
ist with high yields made a profit. (1)

At about 1890 fertilizers came into use in orchards. Blood and bone was commonly used and was applied in winter. If the season was wet the mixture washed away. This was generally considered to be all the tree required (2) and it was not until further work was done on orchard fertilizers in the 1920's by the Department of Agriculture that other needs were appreciated. Although it is not possible to determine the specific use made of manures in the various districts, it is noteworthy that southern orcharding districts were among the largest users of artificial manures in 1914, the first year in which official figures were given. New Norfolk, the largest user, absorbed 21,000 cwt. of artificial manure (which was also necessary for hop growing) and the Huon and Kingborough districts each used 10,000 cwt.

Orchards were clean cultivated to conserve moisture in summer by maintaining a pulverized surface layer. Turned in green matter gave the tree nitrogen. Grass and weeds were ploughed in in the autumn or early winter and the ground harrowed in spring. On small orchards a spade was used. Clean cultivation became standard about 1890. (3) Pruning was widely adopted a little

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(2) Centenary ... of the Huon, article "Orchard Maintenance".
earlier, after 1870. The most popular shape was the inverted pyramid as this permitted good circulation of air and light, was the least liable to wind damage and was the most convenient shape for picking and pruning. (1)

The English consumer of luxury grade fruit was selective. As this market developed the earlier wide range of varieties gave way to the predominance of a few such as Scarlet Pearman, Sturmer and French Crab which, for colour, shape and keeping qualities were found to please the English market. (2) Growers were forced to grade and sort their fruit. This bore most heavily on the small orchardist who was eager to market the whole of his crop. It was found that larger orchardists could generally be relied upon to market good quality fruit of the grade stated. (3) By 1900 individual fruit for the English market was wrapped (in the cheapest brown paper available) and packaged in a standard bushel case. (4)

The increasing incidence of pests and diseases added to the orchardist's problems and expenses. Codlin moth appeared in Hobart orchards in 1875 and in the

(1) Ibid.
(2) Ibid., pp.59-60.
following ten years spread along the Derwent Valley. (1) The Huon orchards remained relatively pest free until the late 1890's. There were also occasional outbreaks of San José scale. An unfortunate erroneous diagnosis by the Entomologist of San José scale in the Glenorchy orchards discredited the expert among orchardists for some time.

In 1884 the Codlin Moth Act was passed. Its administration caused much friction. Unlike the highly successful Scab Act, it was administered by local fruit boards. It was later amended, giving some authority to the Board of Agriculture where local fruit boards did not exist, but the basic problem of inadequate administration by local bodies was not resolved. (2) Its erratic administration was described in an editorial of the Journal of the Council of Agriculture as "a burlesque of law and authority." "One fruit board inspects and fines, another inspects and fines not, while others do nothing at all." (3) A Local Government Act confirmed local authority by placing the administration of both the Codlin Moth Act and The Rabbit Destruction Act under the control of the various municipal councils. However, many local

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justices were prejudiced against inflicting penalty clauses as their own land was often rabbity or their orchards infested. (1)

The Government Entomologist, appointed when the Council of Agriculture was formed in 1892, did much valuable work in diagnosing pests and diseases, in experimental spraying and in encouraging orchardists to adopt new scientific methods for controlling and destroying orchard pests. There was some feeling among orchardists, however, that when the control of the experts passed from the Council to the Department of Agriculture the Expert's interest was diagnosis and that he was less able or concerned with the practical control of orchard pests. (2)

The early methods of combating codlin moth, mussel scab, American blight and aphids were used more conscientiously after the passing of the Codlin Moth Act. For Codlin Moth all fruit were removed when the tree was in bloom or the fruit first formed, and infected trees were cut off below the fruit bearing level. Some orchardists were more meticulous in carrying this out than others. (3)

(1) Report on the Rabbit Destruction Act and Codlin Moth Act, Agricultural Gazette 1911-12, p.11.
A variety of other remedies were also used. Gum leaves in barley water were tried against American blight in orchards at Campania and Ulverstone. Tar water, quasia chips and sulphur lime and salt were considered useful for apple scab and black spot. (1)

Spraying with bordeaux mixture was begun experimentally in Tasmania in the early 1890's. Bordeaux mixture was used against all fungoid diseases. The pumps most extensively used were New Zealand's 'Butt's Aquarius', which sold in Hobart for £1/17/- and also 'Vermorel' and 'Gould's' (£3/3/- to £3/17/6.) (2) In 1914 woolly aphis held its own in orchards. The remedy used was red oil emulsion applied in July. (3)

In his 1913-14 Annual Report the Minister for Agriculture commented:

Although the fruit industry is probably better organised than any other branch of agricultural industry in the State, many fruitgrowers still have a lot to learn in every branch of their business, as the packing, grading and general get-up of our fruit is a long way from being perfect, and the principles of manuring, treatment of pests and general orchard management are still far from being thoroughly understood. (4)

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This is perhaps to be expected of a rapidly developing industry. Before 1870 orchards were of the kitchen and farm orchard type and casually tended. By 1914 orchard management, keyed to the requirements of an expanding mainland and overseas market and handicapped by the need of pest control, by high overhead and freight costs, had reached a relatively high degree of sophistication.
Chapter 11

Stock Raising and Woolgrowing on Mixed Farms and Pastoral Estates, 1870-1890
Stock Raising and Woolgrowing on Mixed Farms and Pastoral Estates, 1870-1890.

Farming prospects were gloomy in the late 1860's. In many districts soil fertility was depleted but as prices for wool, meat and agricultural produce were low neither the use of fertilizer nor an improved system of farming was practical. In the early 1870's however, the value of livestock rose. Beef retailed in Hobart at 2½d to 8d per pound in 1868 and 1869. In 1870 the price was 5½d to 8d, and it remained at a relatively high level, selling at 4d to 8d per pound in 1876. The Hobart retail price for mutton was 2½d to 5d per pound in 1868, 2½d to 6d in 1869, 1870 and 1871. The average price for 1872 and 1873 was 4½d per pound and in 1876 mutton sold at 4d to 6d per pound.

Relatively few livestock were imported during the 1870's partly as a result of climatic extremes in New South Wales. (1) In 1872 4,900 sheep were imported as against 49,400 sheep slaughtered in Hobart and Launceston. Imported sheep totalled 12,000 in 1876 but the number of sheep slaughtered rose to 77,600. In 1882 only 4,800 sheep were imported but, as a result of increased demand following the opening up of the mining fields, 89,900 sheep were slaughtered. The success of the Scab Act encouraged small farmers to compete on the local market.

as they could now purchase clean sheep and fatten and sell them profitably without risking the infection of their whole flocks. Small flock owners invested more heavily in sheep after the Scab Act was passed. (1) The number of cattle imported between 1872 and 1882 generally represented about one tenth the numbers slaughtered in Hobart and Launceston.

Woolgrowing on mixed farms also became more profitable. In 1872 the average Tasmanian price realized was 1/5½ per pound, and although prices declined from this high level to 1/3½ in 1876 and 1/2½ in 1881, the better prices obtained at colonial wool auctions, the efficiency of the Scab Act, and breeding to improve the fleece countered this trend until the mid 1880's, as the following table shows.

Table 18. Nominal Value of Wool Exported. (2)

<table>
<thead>
<tr>
<th>Years</th>
<th>Shillings per sheep</th>
<th>Shillings per pound wool</th>
<th>Pounds of wool exported per sheep</th>
</tr>
</thead>
<tbody>
<tr>
<td>1851-5</td>
<td>3/0.45</td>
<td>1/1.29</td>
<td>2.79</td>
</tr>
<tr>
<td>1861-5</td>
<td>4/4.57</td>
<td>1/7.06</td>
<td>2.76</td>
</tr>
<tr>
<td>1871-5</td>
<td>4/9.61</td>
<td>1/4.45</td>
<td>3.44</td>
</tr>
<tr>
<td>1881</td>
<td>5/4.75</td>
<td>1/1.40</td>
<td>4.47</td>
</tr>
<tr>
<td>1885</td>
<td>3/1.92</td>
<td>0/10.83</td>
<td>3.50</td>
</tr>
</tbody>
</table>


(2) Government Statistician, Annual Report, Statistics of Tasmania, 1885-86, p.XLVII. The 1885 quantities were unduly low owing to large exports during the year before.
As livestock became more profitable many farmers in mixed farming withdrew from cash cropping and gave more attention to livestock. More than 44,000 acres were laid down in permanent artificial grasses between the early 1870's and early 1880's although the area cultivated, which included permanent artificial grasses, increased by only 33,000 acres. There was little increase in the number of mixed farmers forwarding both livestock and agricultural returns (7,103 in 1872-73, 7,161 in 1881-82) while there was an 84 per cent increase (from 809 to 1,489) in the numbers forwarding livestock returns only. (1) At the same time the value of pastoral land rose from an average of 8/11s per acre in 1872 to an average of £1/9/0½ per acre in 1881. (2) The value of agricultural land, however, rose by only a farthing in these years.

Perhaps the greatest gains were made by the breeders of stud stock, especially of stud sheep, for after 1870 Tasmanian studs gradually dominated the Melbourne and Sydney stud sales. They were sold on a rising market and were "ideal for their times; they had better bulk than the Victorian and better quality than the Riverina and South Australian studs". (3) On an average, £18,420

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(1) Government Statistician, Annual Report, Statistics of Tasmania 1881-82, pXXIX.
(2) Ibid., pXXVIII.
worth of stud sheep were exported annually between 1872 and 1879 and two thirds of this value was attributed to the efficient working of the Scab Act. (1) Even more sheep were exported after 1881 when Tasmania was officially declared to be free of scab. In 1880, 385 sheep were exported, in 1881 1,306 and in 1885 3,249. The value per head in 1880 was £38/18/2 but thereafter declined, being £17/17/8 in 1885, which suggests that the market for sheep other than the rarest beast proved sound. (2)

The prices obtained for the best stud rams were excellent. For years William Gibson's rams topped the sales. No other stud could compete with Scone. (3) Below are some of the prices he obtained in Melbourne as given by H.B. Austin in his study of the Merino. (4)

1876 - 15 stud rams, average 75 guineas, top price 280 gns.
1880 - 8 stud rams, average 155 gns.
1881 - 26 stud rams, average 100 gns.
1882 - 3 stud rams, average 306 gns., and 30 flock rams, av. 11 gns.
1883 - 5 stud rams, average 257 gns., 30 stud rams, av. 98 gns., top price 520 gns.
1885 (a drought year) - highest price 650 gns.
1886 - 3 stud rams, av. 430 gns., 10 stud rams, av. 145 gns., top price 525 gns.
1887 - highest price 500 gns.
1890 - highest price 600 gns.

(3) Austin, The Merino, p.76.
(4) Ibid., p.74.
Tasmania's Merinos in the 1860's and 1870's were "improved Saxons" with big plain bodies with depth, curled horns and beautifully fine wool. Until the late 1870's studmasters bred for quality(1) although some attempt was made to combine quantity with quality. At Mona Vale a heavy cutting Merino was evolved by 1877, the ram cutting 11 pounds of excellent quality greasy wool. (2) Egleston was famous for the general excellence of the flock rather than for the production of individual sheep for show or stud purposes. In 1872 Egleston topped the market with wool earning 2/8½ per pound. (3)

In 1878 Vermonts were shown in Sydney and William Gibson of Scone bought the top price ram, Squatter, for 450 guineas. (4) The wool of the Vermont was wrinkly. The swing to the Vermont strain represented a regard for bulk at the expense of the quality of the wool. Up till then all wrinkly lambs were culled. Squatter as a seven year old cut 25 pounds of wool and weighed 200 pounds. He was used to start the Scone No. 2 flock. Vermonts were crossed with Scone ewes and rams were mated with the

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(1) Ibid., p.64.
(2) History of Campbell Town. See D.L. McKinnon's account, Chapter 14, of the various famous studs.
(3) Ibid.
American ewes bought with Squatter. (1)

The influence of the sale of Squatter was tremendous, leading to a preference of judges for wrinkles and resulting in Vermontizing flocks throughout Australia .... The fashion for development spread and developed sheep took all the prizes. This spelt the end of the old Tasmanian types. (2)

Tasmanian Merinos, especially those of Scone and Bellevue, lost their size and shape and the quality of the wool deteriorated. Wool became coarse, harsh handling and cross fibred. The ultimate in this fashion were Patron and Royal Esk. Royal Esk, sold for 800 guineas, cut 41 pounds of greasy wool. (3)

Following the Vermont fashion, the Negretti strain inherent in Tasmanian Merinos was brought out by selective breeding. This strain derived from the sheep imported by King George III from Spain. Early settlers such as Henty, Gibson, Youl and the Van Diemen's Land Company obtained their sheep from these flocks. Within ten years Tasmanian studs were transformed. It has been claimed that this was effected more by selective breeding to the Negretti type than by direct infusion of the Vermont. (4)

The demand for stud Merinos came not only from other colonies but from districts outside the 20 inch isohyet

(1) Ibid.
(2) Ibid.
(3) Ibid.
belting the plains of the stud region on which pure Merinos thrive.\(^1\) After 1870 landholders in districts unsuited to pure Merino began to develop Crossbred flocks. Some Glamorgan sheepowners in the early 1870's obtained stud Merinos from the Midlands and in 1878 it was reported that the wool in this district was far superior to its previous quality.\(^2\) In the Spring Bay district sheep with coarse wool were favoured until the early 1870's when Merino stud were used on the flocks.\(^3\) At the same time runs were opened out by ringing and scrubbing, and in 1881 the Collector for this district reported that the wool was of a finer and stronger texture than formerly.\(^4\) Crossbred sheep were also common by 1880 in the north. Pastoralists crossed Lincolns and Leicesters with Merino stud, producing a better formed sheep, improved weights and finer wool.\(^5\)

Increased attention to longer staple and crossbred wool followed the trend at London auctions. The woollen industry's expansion tapered off and by 1870 supply exceeded demand. The later expanding tweed industry, however, looked to new sources and, although there is no

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\(^1\) Ibid., pp.66-7.

\(^2\) Agricultural Report, Statistics of Tasmania, 1878, report of the Collector for Glamorgan.

\(^3\) Agricultural Report, Statistics of Tasmania, 1874-75, report of the Collector for Spring Bay.


\(^5\) Mercury, 10 Nov., 1883. "Through Tasmania" No. 12 by Special Correspondent. See also Journal of the Council of Agriculture, 1894, p.89.
satisfactory index for Crossbred prices before 1890, the trend was for increasing prices for long and Crossbred wools and declining prices for short Merino. (1)

Between 1870 and the early 1880's most farmers ceased washing in warm water and shearing in the grease became more common. In 1870 249 owners washed their sheep in warm water and 521 sheared in the grease. In 1875 32 washed in warm water, 17 in 1876, while the number who sheared in the grease rose from 372 to 412. This shows not only the increasing popularity of colonial auctions but a change in buyers' preferences. Continental buyers preferred greasy wool and American duties on greasy wool were one third those on scoured wool, one half those on washed wool. (2) By 1878 even in the Campbell Town district, Merino country, warm water washing had been abandoned as shearing in the grease was found more profitable. (3)

Greater attention was also given to breeding of other stock. Longford, Westbury, Deloraine and Port Sorell in the North, Green Ponds and Oatlands in the Midlands, and Glamorgan, Spring Bay and New Norfolk in the South and South East developed considerably as fat stock producers (4)

(2) Ibid., p.174.
(3) Agricultural Report, Statistics of Tasmania, 1878, report of the Collector for Campbell Town, p.228
(4) See the reports of the following Collectors in the Agricultural Reports in the Statistics of Tasmania of the years given:— Collectors for Oatlands, 1876, New Norfolk, 1873, Port Sorell, 1874, Westbury, 1873, Longford, 1874, Glamorgan, 1875, Deloraine, 1879, Spring Bay, 1878 et. al.
The rapid readjustment of land use in response to improved stock prices is illustrated by a comparison of the 1870 and 1873-74 reports of the Port Sorell Collector. The 1870 report was a dismal one and included the statement that cattle for fattening did not number six in the year for the whole district. (1) In 1874, however, the Collector reported much attention to livestock, pastures and fallowing. At the previous stock sales at Latrobe the district had realized £1,800 and in his opinion this branch of agriculture was very prosperous indeed. (2) In the Emu Bay district further along the Coast, stock raising was greatly stimulated in the 1880's by the development of tin mining. Farmers supplied the mines with meat and carted back tin.

Demand for draught horses, both for local use and for export to Melbourne and New Zealand, also showed a strong increase. Between 1869 and 1873 the price of draught horses doubled. (3) Horses gradually replaced bullocks at the plough as farming extended, land was properly broken in and machinery was more widely used. Horses had twice the speed of bullocks although they were more expensive to harness, shoe and feed. The Clydesdale

(1) Agricultural Report, Statistics of Tasmania, 1870, report of the Collector for Port Sorell.
(2) Agricultural Report, Statistics of Tasmania, 1874, report of the Collector for Port Sorell.
was in especial demand after the introduction in 1878 of the reaper and binder. Arriving on the North West Coast in 1878, Edward Braddon found that good draught horses were unprocurable. (1) The number of horses on the Coast rose from 2,100 in 1871 to 3,800 in 1882 and 6,500 in 1891. The total for Tasmania was 23,000 in 1871, 31,000 in 1891.

Horses were also required for transport. Bullocks were used where roads were rough, but horses were used on metal roads or where distance from the market demanded speed to cover the journey in one day. (2) Railways were fed by horse transport, and until 1920 many areas relatively close to the markets, such as part of the Longford district, had regular direct road transport services. (3) Firewood for the cities was generally sent by rail but as late as 1930 horse drawn wood carts brought long wood for sale to Hobart woodyards. (4) Town transport depended on horses and this demand for hay, chaff and oats was an important source of farm income.

A large demand came from the sawmills and mines. All the large mills had tramlines and horse traction was

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(2) Mr. K. Dallas, Department of Commerce and Economics, University of Tasmania, interview.

(3) Grain was carted from Evandale to Launceston for 1/- per ton less than the railway charge. Journal of the Council of Agriculture, July 1896. Evandale meeting.

(4) Mr. K. Dallas, interview.
common as only the largest had steam locomotives. The mines needed timber, and bullocks hauled the logs to the tram loading points. Mt. Lyell had miles of feeder tracks to the railway. Supplies and tin also had to be carted for the alluvial tinfields of the North East. The mining boom meant demand for horses, bullocks, fodder and supplies.

Other factors contributing to emphasis on stock in mixed farm regions were low prices for cereals, discouraging prospects for wheatgrowing, the scarcity of skilled farm labour and the high wages demanded. Labour was drawn off to the mines, the roads and the railways. Increased use of machinery did not always solve the problem. Instances occurred of machinery left idle for lack of sufficiently skilled men to operate it (1) and casual labour was often unreliable. (2)

Labour problems were almost entirely responsible for the change in land use on some farms. At Egleston, the second largest estate in Tasmania, there were 1,000 acres of fertile land along the river capable of producing 50 bushels of wheat per acre without manuring, as the land was covered with a fine silt whenever the river flooded. This land was not cropped in 1881 and had, in fact, been cropped only twenty one times in forty seven years. The


(2) Agricultural Reports, Statistics of Tasmania. See Statistics, 1870 and 1871, reports of the Collector for Port Sorell; also reports of Collectors for Oatlands, 1873-74, Clarence, 1881, et. al.
owner told the Mercury Special Correspondent that he had the most up to date equipment and would willingly crop as cropping would return 30/- per acre compared with the 10/- he obtained from grazing. However, he lacked the labour. (1) The Collectors frequently commented that lack of good labour forced less cropping and greater attention to fat stock and woolgrowing.

By the early 1880's the trend was for cropping where the soil was good and little hired labour, other than seasonal labour, was required. Larger holdings were almost entirely in pastures. It is clear from the Travelling Correspondent's comments concerning farms on the Westwood Estate between the South Esk and Meander Rivers that on most smaller farms one third was cropped, on third was in pastures and the remainder was fallow. Larger holdings were devoted to pastoral activities. Soil type and terrain must have influenced land use to some degree but on one farm which had previously cropped 1,000 acres there were only 50 acres in crop because of the lack of men. (2)


(2) Ibid.
The overall increase of sheep and cattle numbers may be seen from the following figures:—

Table 19.

Sheep and Cattle Numbers, 1871, 1882 and 1891.

<table>
<thead>
<tr>
<th></th>
<th>1871</th>
<th>1882</th>
<th>1891</th>
<th>1871</th>
<th>1882</th>
<th>1891</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cattle - 100's</td>
<td></td>
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<td></td>
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</tr>
<tr>
<td>S. &amp; S.E.</td>
<td>139</td>
<td>211</td>
<td>266</td>
<td>257</td>
<td>335</td>
<td>271</td>
</tr>
<tr>
<td>Midlands</td>
<td>250</td>
<td>353</td>
<td>373</td>
<td>654</td>
<td>875</td>
<td>756</td>
</tr>
<tr>
<td>North</td>
<td>365</td>
<td>395</td>
<td>400</td>
<td>298</td>
<td>412</td>
<td>382</td>
</tr>
<tr>
<td>N.W.</td>
<td>125</td>
<td>201</td>
<td>343</td>
<td>14</td>
<td>43</td>
<td>36</td>
</tr>
<tr>
<td>N.E.</td>
<td>117</td>
<td>149</td>
<td>238</td>
<td>126</td>
<td>182</td>
<td>161</td>
</tr>
</tbody>
</table>

Sheep - 1,000's

The increase in sheep and cattle on the North West Coast was outstanding. The build-up in pioneer districts was facilitated by a new rough and ready, but speedy and efficient method of clearing land. After ringing and a casual burn-off land was not cleared but grass seed broadcast in the ashes. Stock grazed around the fallen timber until the farmer had time to clear the land properly—often not until the pasture was run down. (1) Clearing therefore advanced rapidly. (2) The steady increase in cattle numbers in the South, Midlands and North East was also conspicuous. The increase in the North East was greatest in the late 1880's when farmers felt the effects of the new Scottsdale railway line and the rapidly developing alluvial tin fields.

The decrease in sheep numbers in the 1880's reflected in some cases the emphasis on quality, the finer wool and good frame of the Crossbred. It also reflected the adverse factors of overstocking, rundown pastures,


(2) Ibid.
rabbits, lower wool prices and renewed competition from imported beasts on local markets.

Mutton prices fell in the 1880's. The retail price for mutton in 1881 was 2d to 8d per pound, in 1891 3d to 6d. Beef prices, however, were 2½d to 8d in 1881, 6d to 8d in 1891. After the mid 1880's imported livestock dominated the markets once more. In 1882 only 4,800 sheep were imported into Hobart and Launceston while 89,900 sheep were slaughtered in these centres. By 1886, however, although 106,100 sheep were slaughtered, 52,100 sheep were imported. In 1891 the number of sheep slaughtered had dropped back a little to 98,400 but the number of sheep imported into Hobart and Launceston rose to 67,800. Cattle imports rose by five times, from 900 to 4,700, in these years although the number of cattle slaughtered in Hobart and Launceston rose only from 9,600 to 10,300. Northern producers retained their urban beef market. Only 62 cattle entered the Port of Launceston in 1891 although 3,800 cattle were slaughtered in Launceston in that year. Their monopoly of northern mutton sales, however, was completely lost, a total of 30,800 sheep being imported as against 34,000 slaughtered.

The increase in stock numbers in the 1870's which reversed the decline in sheep numbers begun in the early 1850's was made possible by the availability of more cleared land in the pioneer districts and by less cropping and sowing of pastures in well established districts. In
the late 1880's, when wool and meat prices were lower and agricultural prices had recovered somewhat, the acreage in pastures dropped and that under crop increased. In the South the acreage in artificial grasses remained high when crop acreage increased, as land out of production in the late 1860's and early 1870's was brought back into production.

Perhaps the greatest single problem was rabbits. Spreading from the low lying land in the south into higher pastoral country in the 1870's, by the early 1880's they were widespread in pastoral districts. In 1881 the Chief Inspector of Sheep reported that over the previous year there was a reduction of 50,000 to 60,000 sheep due to the increase of rabbits, and that 1,618,300 rabbit skins had been exported to the value of £12,579.

During the 1870's and early Rabbit Trusts were set up under the Municipal Councils, but proved a failure. A Select Committee in 1882 found further legislation an "imperative necessity". It was James Whyte's opinion that to subsidize the existing Rabbit Trusts without some controlling power over them would be simply a waste of money. "They have been sufficiently tried under the ex-

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(3) Journal of the House of Assembly, 1882, No.107, Select Committee on Rabbits.
isting Rabbit Act and have been found woefully wanting."(1) This Act was his own proposal. The responsibility, how-
ever, remained with local authorities and despite more strenuous attempts in the 1880's towards their eradica-
tions, rabbit numbers grew. In 1883 1,736,000 skins valued at £20,000 were exported, and it was estimated that 4
million rabbits had been destroyed.(2) In 1889 1,820,000
skins were exported, in 1891, 2,992,000.(3) As early as
1884 all rural municipalities were declared infested
areas.(4)

The damage done by rabbits was enormous. One witness
before the 1882 Select Committee stated that he had to
reduce lambing flocks by 50 per cent, and even so he had
had only 40 per cent of small lambs. In order to free
his own land of rabbits he had had to rent the neighbour-
ing property which was badly infested.(5) Some runs
which had always had 80 per cent lambing now had 30 to 40
per cent of small weak lambs and in some districts lambing

(1) %Itid. %
(2) Journal of the House of Assembly, 1884, No.114, p.3
(3) Journal of the House of Assembly, 1891, No.34,
(4) Journal of the House of Assembly, 1884, No.114, p.3.
(5) Journal of the House of Assembly, 1882, No.107,
was late and therefore much less wool could be shorn from
the lambs. (1)

A few wealthy landholders erected rabbitproof fences
in the 1870's (2) and in the early 1880's exterminators
using bisulphide of carbon were introduced. (3) The most
common method of extermination, however, was to lay phos-
phorized grain. Some farmers prepared the grain them-
selves by dissolving the phosphorus in boiling water and
adding the oats. (4) It was also prepared with "phosphor-
isers". In January and February, 1883 200 bushels of
poisoned grain were sold to farmers which had been prep-
ared with a phosphoriser in the possession of the Chief
Inspector of Stock. The machine was then handed over to
the firm Webster and Son. Some large landholders proc-
ured their own machines. (5)

The 1882 statistical returns showed that 847 hands
were employed in the control of rabbits. (6) Many were
trappers and they did very well, receiving up to 3/6 per
dozen in the late 1880's. Retailers sold them for 4/- to

(1) Ibid.
(2) Just, T.C. *Tasmania: A Description of the Island of
Tasmania and Its Resources.*, (1879), p.32.
(4) *Journal of the House of Assembly, 1883, No.32*,
*Report of the Inspector of the Rabbits Destruction
Hill*, p.4.
(5) Ibid., pp.3-4.
(6) Ibid.
5/- per dozen and received a further 2/6 for the skins. (1) These prices persuaded some owners to breed rabbits, and at least a few leased their runs to rabbiters (2), thus ruining their neighbours and showing a total disregard for the law. In one case, typical of many reported before the Select Committee of 1891, eighty five rabbits were counted eating off a quarter acre section and nearby were 2,000 to 3,000 rabbits with freely worked burrows. The grass was eaten into the earth. Rabbits were most numerous about the house, which was netted off. The owner had had charges laid against him several times but the charges were dismissed because the law required measures to be taken within seven days of notice being served but did not specify that measures were to continue to be taken. (3)

Owing to the deficiencies of Tasmanian pastures, pastoralists and farmers had found it difficult since the 1840's to maintain sheep numbers and to compete with imported stock. In the 1870's wool and meat prices were good but prosperity was marred by the rabbit invasion in established districts. In the late 1880's wool and meat prices were again low and rabbits were well established. In the short term the rabbit invasion involved a heavy

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(2) Ibid.

(3) Ibid., Evidence, p.1. Mr. T. Tabart, witness.
loss in lambing, condition of the sheep, and in immediate stocking capacity. The greater damage, however, was long term. The damage done, Tasmania's never lush pastures was irreparable. The prosperous days of the pastoral industry were almost at an end.
Chapter 111.

Mixed Farming 1870-1890:

Rural Population, Crops and Farming Technique
Ch.111. Mixed Farming 1870-1890: 
Rural Population, Crops and Farming Technique.

i. Population Movement and Farm Labour.

The greatest single stimulus to the Tasmanian economy in the 1870's was the discovery of minerals. In 1876 the alluvial tin fields in the North East were opened up, in 1877 gold discoveries were made, and after 1882 various discoveries were made in the West, notably silver lead at Mt. Zeehan in 1885, gold and copper at Mt. Lyell in 1885, and silver and lead at Heazlewood River in 1887. These discoveries together with railway construction stimulated industry, (1) stayed the tide of emigration, and drew to Tasmania a new class of worker.

Mines, railways and roads drew labour away from farms. To alleviate the shortage, an Immigration Act was passed in 1882 which retained the terms of an act passed in 1867 providing land grants to immigrants who arrived at their own expense. As may be seen from the following figures, the promise of land had in no way turned the tide of migration. The 1882 Act also made provision for assisted passages for selected agricultural labourers, artisans and domestics. Some of these were Germans. In all, 2,734 persons arrived under the Act before it was suppressed in 1885 for lack of further funds. (2)

(2) Ibid., pp.1328-9.
Table 20.  
Emigration and Immigration. (1)

<table>
<thead>
<tr>
<th>Year</th>
<th>Emigration</th>
<th>Immigration</th>
</tr>
</thead>
<tbody>
<tr>
<td>1871 - 75</td>
<td>34,281</td>
<td>29,900</td>
</tr>
<tr>
<td>1876 - 80</td>
<td>45,879</td>
<td>48,801</td>
</tr>
<tr>
<td>1881 - 85</td>
<td>61,899</td>
<td>68,720</td>
</tr>
<tr>
<td>1885 - 89</td>
<td>92,695</td>
<td>102,205</td>
</tr>
</tbody>
</table>

Between 1870 and 1891 the male population increased by 25,000, compared with a 5,000 increase between 1847 and 1870, and the number of males of "productive" age rose from 40,557 in 1870 to 48,781, thus considerably increasing the proportion of producers to dependants in the community. Savings Banks increased their number of depositors from 8,937 in 1872 to 13,520 in 1880, to 25,324 in 1890 and the amounts of deposit from £234,981 to £310,081, to £521,250 respectively.

Table 21. Population, Census Years.

<table>
<thead>
<tr>
<th>Year</th>
<th>Persons</th>
<th>Male</th>
<th>Female</th>
</tr>
</thead>
<tbody>
<tr>
<td>1861</td>
<td>89,977</td>
<td>49,593</td>
<td>40,384</td>
</tr>
<tr>
<td>1870</td>
<td>99,328</td>
<td>52,853</td>
<td>46,475</td>
</tr>
<tr>
<td>1881</td>
<td>115,705</td>
<td>61,162</td>
<td>54,543</td>
</tr>
<tr>
<td>1891</td>
<td>146,667</td>
<td>77,560</td>
<td>69,107</td>
</tr>
</tbody>
</table>

Expanding local and export markets for agricultural goods, facilitated by the use of steamers between Melbourne and the North West Coast in the early 1870's, good wool and stud prices and the expansion of fruitgrowing caused a rise in the value of rural land. The extension of roads and railways, however, insufficient to need, also contributed greatly to the prosperity of rural districts. Between 1871 and 1891 road mileage doubled (from 2,900 to 5,700 miles) and by 1891 425 miles of

(1) All figures unless otherwise stated are from the published Government statistics of the years given.
railways had been built. As a result of these factors the value of rural property increased by 10 per cent (from £338,800 to £373,600) between 1872 and 1881 and rose a further 7 per cent by 1891 (to £398,600).

The greatest increase in land value occurred on the North West Coast. Property value for the Port Sorell Police District rose from £21,753 in 1874 to £29,395 in 1881. Property values for the George Town Police District in the North East increased from £5,181 to £8,577 in these years, and for Franklin (Huon) in the pioneer south, from £8,000 to £10,623. The property value of the Hobart Police District increased only from £19,498 to £22,521.

The North West Coast developed rapidly in the 1870's and population increased by 5,000 by 1881. Rural development was largely centred about Port Sorell and the Don River. After the discovery of tin at Mt. Bischoff mining contributed to this development. In 1878 a horse tramway from Mt. Bischoff to Burnie was opened. The mining town of Waratah sprang up and had a population of 1,252 by 1881. The North East also developed rapidly. In 1881 of the 6,500 persons living on the mining fields, 5,000 were in the North East. "In eleven years that area between Beaconsfield and Fingal (excluding Launceston and its environs) almost doubled its population to 14,000, absorbing half of the island's natural increase
for the decade."(1)

The majority who went into the new mining areas came from the long settled rural districts.(2) Between 1870 and 1881 only the Huon, Derwent Valley and a part of the Midlands retained most of their natural increase in population. Morven lost 400 persons, the Norfolk Plains, near Longford, nearly 500, Westbury nearly 1,000, and Sorell in the South lost 700. There was no drift to the cities.

The block of four electorates covering the old wheatlands from Evandale to Westbury would have held nearly 17,000 instead of 12,000 in 1881 if it had been able to find work for each member of every family that was settled in the district in 1870. This it failed to do. Soil exhaustion, its loss of the Victorian wheat market and the absence of virgin soil fettered progress and forced hundreds of farmers to move fifty and sixty miles westward to the new lands around Sassafras, Devonport and Barrington.(3)

In the 1880's the population increase on the North West Coast continued, rising from 13,888 to 22,602 by 1891. The greatest increase was in the West Devon district where "large towns" sprang "out of the wilderness". The population of Devonport, then the two villages of Formby and Torquay, increased by two and a half times in the 1880's, due largely to the completion in 1885 of a railway line from Deloraine to Formby. Latrobe's popul-

---

(2) Ibid., p.64.
(3) Ibid., p.64.
ation doubled. To the west the population of Burnie, which was the port for Mt. Bischoff and also good potato country, rose to 1,000 and Wynyard also developed. In the North East, Scottsdale's virgin farmlands developed rapidly with the growth of mining activity and the completion of the Scottsdale railway line.

In 1870 50 per cent of males over 15 years were engaged in farming, by 1890 just over a third. There appears to have been little increase in the number of farm labourers in these years. In 1870 7,054 persons were classified as farm labourers, in 1891 there were 6,295 wage earners engaged in agriculture and 744 in pastoral pursuits. In 1891 there were also 248 agricultural and 16 pastoral labourers unemployed. However, there were also 4,604 persons described as "relatives assisting", of which 3,903 were in agriculture. This classification shows the importance of family labour as against hired labour.

The number of farmers increased considerably but differences in classification make absolute comparison impossible. In 1870 there were 2,100 farm proprietors and 2,737 tenants, figures which clearly reveal the prevalence of tenant farming. In 1890 there were 2,265 persons described as employers engaged in agriculture, 466 in pastoral activity, and 3,319 engaged on their own account in agriculture and 617 pastoralists engaged on their own account.
Terms were favourable for the small settler. The unaided immigrant was entitled to 30 acres for himself, 20 acres for his wife and 10 acres for each child. Crown land could be purchased in 320 acre blocks or less, either by cash payment of £1 per acre or by paying in fourteen annual instalments at the rate of £1/6/8 per acre plus surveying fees and charges, estimated to bring the full cost to £440. As E.N.G. Braddon pointed out in his letters to the Indian papers, which were intended to give a full and accurate picture of rural conditions in Tasmania for the benefit of Anglo Indians considering taking up land in Tasmania, this meant that the small capitalist who invested this sum at 7½ per cent could get his 320 acres for nothing as interest on the sum would pay the annual instalments. (1)

The small capitalist's greatest problem was to procure satisfactory labour. Farm labourers...

...can keep themselves well for a week on the wages of three days. Many improve half their time in the taproom; others devote their off days to small farms of their own; very few seem to care about steady daily work, or to be at all keen as to accepting any task that will try their thaws and sinews. (2)

---

(1) Braddon, Letter IX, June 1878, Letters to India, Braddon Papers.

(2) Ibid., Letter XIX.
Table 22.

Wages of Farm Labourers 1871, 1878, 1881 and 1891.

<table>
<thead>
<tr>
<th></th>
<th>1871 (average)</th>
<th>1878</th>
<th>1881</th>
<th>1891</th>
</tr>
</thead>
<tbody>
<tr>
<td>ploughmen per week</td>
<td>8-20/-</td>
<td>12/6$rac{3}{4}$</td>
<td>10-18/-</td>
<td>10-25/-</td>
</tr>
<tr>
<td>+ rations</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>farm labourers per</td>
<td>6-10/-</td>
<td>10/7$rac{1}{2}$</td>
<td>7-13/-</td>
<td>10-20/-</td>
</tr>
<tr>
<td>+ rations</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>reapers per acre</td>
<td>7-10/-</td>
<td>11/3$rac{1}{4}$</td>
<td>7/6-16/-</td>
<td>6-15/-</td>
</tr>
<tr>
<td>+ rations</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>mowers per acre</td>
<td>2/6-5/-</td>
<td>4/3</td>
<td>2/6-6/-</td>
<td>2-7/6</td>
</tr>
<tr>
<td>+ rations</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>shepherds per year</td>
<td>£25-40</td>
<td>£32/5/5$rac{1}{2}$</td>
<td>£25-40</td>
<td>£30-50</td>
</tr>
<tr>
<td>+ rations</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>shearers per 100 sheep + rations</td>
<td>8-16/-</td>
<td>13/8</td>
<td>11/6-20/-</td>
<td>10-20/-</td>
</tr>
</tbody>
</table>

At these wages farmers could not afford hired labour even for potato crops. The Devon Herald commented in 1888 that the potato crop at Railton was poor. Plantings were large but the farmers could not afford labour to help get the crop in. (1) Lack of good, cheap farm labour resulted in relatively highly mechanized farming on the wheatlands of the northern plains. In the pioneer districts, where the use of machinery was more limited, farms had something of an air of negligence. Many farmers had more land than they could work and more cattle than they could feed. Fields were often badly tilled, crops poor, fences dilapidated and cows grazed the road sides. (2)

(1) Devon Herald, 24 April, 1888.
(2) Braddon, op. cit., Letter Xlll, Sept., 1878.
Between 1870 and 1890 the area in wheat fluctuated from between 30,000 and 60,000 acres (see Table 23), but the overall trend was a downward one. Production dropped from an average of 1,066,000 bushels yearly between 1861 and 1870 to 889,500 bushels yearly between 1871 and 1881. Between 1881 and 1890 the average production was 736,300 bushels yearly. Prices remained low (4/-4½ per bushel in 1881) and markets were unpromising. The crop was speculative. If prices did not pay it was reaped as hay.

Prices were kept low by imports of grain and flour. Tasmanian wheat producers had felt the threat of imported grain in the 1860's, but at that time most imported grain was re-exported as flour and producers retained the local markets. This monopoly was lost in the 1880's. Imports rose from 2,000 pounds of grain and 43,000 pounds of flour in 1881 to 18,000 pounds of grain and 2,191,000 pounds of flour in 1887. In 1891 12,216,000 pounds of grain were imported, and 1,083,000 pounds of flour. In 1868 178,800 bushels of wheat and 408 tons of flour were exported. By 1881 these had dropped to 1,868 bushels of wheat and 34 tons of flour. By 1885 exports of wheat and flour had ceased.
Hay crops increased not only in quantity but also in quality as wheat production decreased. Hay was required not only on the farm but for horses in the cities and for the bullocks used for haulage in the timber and the tin industries. On the North West Coast hay acreage increased and a half two times between 1871 and 1891 (see Table 23). In 1871 the quality was so poor that horses would not eat it and locally grown hay was used only in the stable, the

<table>
<thead>
<tr>
<th>Table 23. Wheat, Hay and Pea Acreage according to Region, 1871, 1882, 1891.</th>
</tr>
</thead>
<tbody>
<tr>
<td>00 acres</td>
</tr>
</tbody>
</table>

### A. Wheat Acreage 00 acres

<table>
<thead>
<tr>
<th>Region</th>
<th>1871</th>
<th>1882</th>
<th>1891</th>
</tr>
</thead>
<tbody>
<tr>
<td>South and South East</td>
<td>146</td>
<td>157</td>
<td>79</td>
</tr>
<tr>
<td>Midlands</td>
<td>78</td>
<td>64</td>
<td>44</td>
</tr>
<tr>
<td>North</td>
<td>290</td>
<td>240</td>
<td>231</td>
</tr>
<tr>
<td>North West</td>
<td>49</td>
<td>40</td>
<td>32</td>
</tr>
<tr>
<td>North East</td>
<td>11</td>
<td>6</td>
<td>9</td>
</tr>
<tr>
<td>Total</td>
<td>574</td>
<td>507</td>
<td>395</td>
</tr>
</tbody>
</table>

### B. Hay Acreage 00 acres

<table>
<thead>
<tr>
<th>Region</th>
<th>1871</th>
<th>1882</th>
<th>1891</th>
</tr>
</thead>
<tbody>
<tr>
<td>South and South East</td>
<td>120</td>
<td>149</td>
<td>142</td>
</tr>
<tr>
<td>Midlands</td>
<td>55</td>
<td>42</td>
<td>56</td>
</tr>
<tr>
<td>North</td>
<td>141</td>
<td>120</td>
<td>180</td>
</tr>
<tr>
<td>North West</td>
<td>11</td>
<td>15</td>
<td>27</td>
</tr>
<tr>
<td>North East</td>
<td>9</td>
<td>22</td>
<td>49</td>
</tr>
<tr>
<td>Total</td>
<td>336</td>
<td>348</td>
<td>454</td>
</tr>
</tbody>
</table>

### C. Pea Acreage 00 acres

<table>
<thead>
<tr>
<th>Region</th>
<th>1871</th>
<th>1882</th>
<th>1891</th>
</tr>
</thead>
<tbody>
<tr>
<td>South and South East</td>
<td>23</td>
<td>20</td>
<td>29</td>
</tr>
<tr>
<td>Midlands</td>
<td>4</td>
<td>3</td>
<td>5</td>
</tr>
<tr>
<td>North</td>
<td>9</td>
<td>20</td>
<td>34</td>
</tr>
<tr>
<td>North West</td>
<td>8</td>
<td>11</td>
<td>23</td>
</tr>
<tr>
<td>North East</td>
<td>1</td>
<td>1</td>
<td>5</td>
</tr>
<tr>
<td>Total</td>
<td>45</td>
<td>55</td>
<td>96</td>
</tr>
</tbody>
</table>
rest imported. Fat livestock were of no importance in 1870. With demand for fodder quality improved. In the 1870's Hobart hay prices ranged from £3/5/- to £5/2/-.

The oat crop did not expand between 1871 and 1891 as prices did not warrant it. Prices fell from 3/11 in Hobart in 1873-4 to a low of 1/9 - 1/11 per bushel in 1890-1. However, most hay was oaten and any surplus could be stored in stacks for years if need be, until prices improved.

Pea acreage doubled (see Table 23), although peas were almost entirely for local use until after 1890. The North West Coast and Deloraine, on the bush fringe of the northern region, were ideally suited to growing pulse, and pig raising became a profitable sideline for small farmers. Acreage on the Coast increased from 800 in 1871 to nearly 2,300 acres, and Deloraine had over 1,000 acres in peas in 1891.

The outstanding development was in potatoes. In 1871 Tasmania's total acreage in this crop was 9,800 acres, of which 4,700 acres were on the North West Coast. There was little to no extension until after 1881, when the Sydney demand increased. The area around Sydney was unsuited to root crops and cheap water freight from the jetties along the North West Coast permitted competition on this market. North West Coast potatoes, which followed Victorian

potatoes on the market, were highly regarded. (1) In 1891 total acreage was 20,100 acres, of which 12,200 acres were grown on the Coast. As wheat lost importance as a cash crop, potatoes became the main — in many cases, the sole — cash crop on the North West Coast.

Official statistics appeared showing the acreage bare fallowed and rotated during these years, but the figures are very suspect. The acreage shown as under rotation appears to have dropped from 39,000 acres in 1871 to 5,000 acres in 1879, and thereafter remained low. There were 2,700 acres shown as under rotation in 1891. This decrease may in part be the result of a drop in area cultivated and an increase in the area under pasture, but it is probable that a less casual use of terminology by farmers filling in returns was largely responsible.

The largest area under rotation in 1891, by which time the official figures were probably reasonably accurate, was on the North West Coast (1,680) acres). The only other region with any sizeable acreage was the south, with 700 acres shown as rotated. The north had only 130 acres rotated in 1891. In the north, however, the suspect 1871 figures showed 16,400 acres under bare fallow, and in 1891 14,600 acres were returned in this category. The area under bare fallow in the south rose from 6,500 acres in 1871 to 8,200 acres, the gain being made after 1882.

The North West Coast had only 330 acres under bare fallow in 1891. The Midlands had 2,600 acres.

Even by 1890 a "bare fallow" was often little more than a ploughing in for fallow. After a spring ploughing and perhaps a harrowing the land was not worked over the summer, the weeds dealt with as they appeared, and the land left open to obtain tilth. Instead, all that was done was to turn the cattle in to feed on the weeds, which all too often seeded. (1)

Except in the North West and North East winter wheat, increasingly sowed with guano, followed the fallow. Drilling was not extensive as this required additional labour, and if the fallow were adequate the land was clear and did not require hoeing. After two ploughings the wheat was followed by oats or barley. Oats were cut either for oats or cured green for hay, according to the cleanliness, weight of the crop and market prospects. The rotation was then repeated, and at the end of six years the land was sown with grass seed and left to consolidate for a few years. (2) The system varied somewhat. Some leaseholders sowed no grasses, others, usually larger farmers, concentrated on stock and little of the land was cropped. (3) Sometimes the fallowing was omitted - two or three crops

(2) Just, T.C., Tasmania! A Description, p.28.
(3) Ibid.
were got from the ground which was then laid in pastures and left until renovated by the action of time.\(^{(1)}\) When agricultural prices were low fallowing was found too expensive a system, especially for tenant farmers paying high rents.\(^{(2)}\) Tired land as well as poor prices often influenced the decision to crop less and to concentrate on livestock.\(^{(3)}\)

Along the North West Coast and in the North East a better rotation was possible. By 1870 the standard rotation was potatoes, then grain followed by grass. It was not a fixed system but was loosely kept or approximated.\(^{(4)}\) As pea acreage increased a pulse crop became an increasingly common rotation crop.

Between 1870 and 1890 the amount of artificial fertilizer imported into Tasmania doubled. In 1870, 1,956 tons (£12,140) were imported, in 1880 2,467 tons (£16,839) and in 1890 4,086 tons valued at £19,526. Guano was first used extensively for cereal crops in 1870 at Longford and...\(^{(5)}\)

\(^{(1)}\) Agricultural Report, Statistics of Tasmania, 1873, report of the Collector for New Norfolk.


\(^{(3)}\) Agricultural Report, Statistics of Tasmania, 1875, report of the Collector for Westbury.


\(^{(5)}\) Agricultural Report, Statistics of Tasmania, 1870, report of the Collector for Longford.
and it was thereafter used more extensively in the south and on the northern plains. Yield and crop prices were both low, and the use of this much needed improvement was made possible by better prices for livestock. By 1878 the use of guano was standard in the old wheatgrowing areas (1) although until 1890 farmers on the North West Coast relied upon the fertility of their relatively newer soils.

After 1870 farm machinery rapidly came into wider use. The 1870's, and more especially the 1880's were the age of cheap steel, which was imported in rod and bar. The village blacksmith often made plough frames, using factory-made mould boards. Manufacturing costs were low and the frames, lighter than those of earlier ploughs, were also stronger and were therefore longer lasting and cheaper to maintain. Double and triple furrow ploughs were all-iron, although some small single furrow ploughs for light work and for use in orchards had wooden handles. (2)

Single (swing) ploughs were most efficient in breaking up grassland. Double and triple furrow ploughs appeared in the early 1870's and were at their best in following stubble. As might be expected, of the total of 952 in 1888 more than half were employed in the northern cereal

(1) Just, T.C., Tasmania! A Description, p.28.

(2) I am much indebted to Mr. Dallas in discussion of farm machinery.
growing districts. These ploughs, which effected a saving of time and labour, required large, fairly flat paddocks. They were inefficient in rough land where stones and roots were still common. Only 5 were located on the North West Coast and in the North East. The subsoil plough also could only be used on well cleared land and of the 333 in Tasmania in 1888 (21 in 1870), 112 were in the Westbury district. Only 14 were in the North West and North East. This plough permitted much needed deep ploughing of long cropped soils.

Improvements of the harrow followed improvements to the plough, and its use extended. There were 414 horse hoes, grubbers, scarifiers and harrows in 1870 and 1,795 in 1888. The number of cultivators also increased by almost three times in less than twenty years. In 1870 Westbury alone had almost half the total number in use. In the following years other northern and southern districts adopted their use. Sowing machines increased from three to fifty four by 1888. These were more widely dispersed through the North. They were only used on clay soils; on the North West Coast a rough sledge weighted with stones (1) or a contraption of hardwood cross pieces, fence rails and chains (which cost 5/- compared with 20 guineas) was used to smooth over the land after drilling.

(1) Mr. K. Dallas, interview.

This was called "smudging" or "dragging". Seed drills were really economic only on cleared land with all stumps removed and when fertilizer was drilled along with the oats, wheat, barley, peas, turnips or grass seed. The increase in machinery of this kind was largely the result of mechanical reaping, which required the possession of horses. They were used for other machinery, thus effecting a composite use of labour saving machinery.

Table 24.

Machinery for Preparing the Soil 1871 (a) and 1888 (b)

<table>
<thead>
<tr>
<th></th>
<th>Clod Crushers</th>
<th>Horse hoes, grubbers, scarifs and harrows</th>
<th>Cultivators</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>a</td>
<td>b</td>
<td>a</td>
</tr>
<tr>
<td>South</td>
<td>25</td>
<td>20</td>
<td>199</td>
</tr>
<tr>
<td>Midl.</td>
<td>7</td>
<td>16</td>
<td>41</td>
</tr>
<tr>
<td>North</td>
<td>75</td>
<td>45</td>
<td>157</td>
</tr>
<tr>
<td>N.W.</td>
<td>-</td>
<td>26</td>
<td>10</td>
</tr>
<tr>
<td>N.E.</td>
<td>3</td>
<td>3</td>
<td>7</td>
</tr>
<tr>
<td>Total</td>
<td>110</td>
<td>110</td>
<td>414</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>Subsoil plough</th>
<th>double and triple ploughs</th>
<th>Drills</th>
<th>Sowing machines</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>a</td>
<td>b</td>
<td>a</td>
<td>b</td>
</tr>
<tr>
<td>South</td>
<td>12</td>
<td>110</td>
<td>43</td>
<td>50</td>
</tr>
<tr>
<td>Midl.</td>
<td>1</td>
<td>52</td>
<td>11</td>
<td>20</td>
</tr>
<tr>
<td>North</td>
<td>7</td>
<td>157</td>
<td>36</td>
<td>47</td>
</tr>
<tr>
<td>N.W.</td>
<td>-</td>
<td>10</td>
<td>2</td>
<td>9</td>
</tr>
<tr>
<td>N.E.</td>
<td>1</td>
<td>4</td>
<td>1</td>
<td>6</td>
</tr>
<tr>
<td>Total</td>
<td>21</td>
<td>333</td>
<td>93</td>
<td>132</td>
</tr>
</tbody>
</table>

An assortment of other implements were also used in 1888, but not widely. In the Port Sorell district there were 34 disc harrows, in Eau Bay there were four. Selby had two, New Norfolk, one. Westbury had six acme harrows, New Norfolk one. In the Ringarooma district there were
two stump jump ploughs. Glamorgan had a potato raising plough. These were never widely used as they were inefficient. There were also a few hand cultivators, hay rakes and seed drills.

Harvesting machinery was widely used by the late 1870's. The increase after the late 1870's was due to the introduction of the reaper and binder. As the Statistician commented in his 1880 Report, the perfecting of a machine capable of binding as well as reaping could not fail to have a very important influence upon agriculture. In eliminating the laborious time and labour consuming exercise of manual binding, the use of the reaper and binder marked a major step forward to modern methods of farming in Tasmania.

The first few in use in 1878 ("Wood's Patent String Binders") gave 'every satisfaction' and within only ten years 471 were in operation. The use of the reaper and binder gave a great fillip to Clydesdale breeders, for these draught animals combined the strength and the speed required. There was a large concentration of reapers and binders (and also mowing machines) in the north. The north and North West Coast were the leading cash crop districts. The North West Coast, despite a relative paucity of other machinery, had 80 reapers and binders by 1888. The number

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of reapers, reapers and mowers and mowing machines also increased and a few strippers were introduced although they were not generally suitable to Tasmanian conditions. Humidity was too great for their successful use, they were too heavy on horses on hilly ground and not manouvresable among stumps and on steep hillsides.

Table 25.

<table>
<thead>
<tr>
<th>Horse Power Harvesting Machinery 1871 (a) and 1888 (b)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reaper &amp; binders</td>
</tr>
<tr>
<td>South a</td>
</tr>
<tr>
<td>South 67</td>
</tr>
<tr>
<td>Midl. 39</td>
</tr>
<tr>
<td>North 205</td>
</tr>
<tr>
<td>N.W. 80</td>
</tr>
<tr>
<td>N.E. -</td>
</tr>
<tr>
<td>Total 471</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Mowing machines</th>
<th>Strippers</th>
<th>Hay rakes</th>
</tr>
</thead>
<tbody>
<tr>
<td>South a</td>
<td>b</td>
<td>a</td>
</tr>
<tr>
<td>South 5</td>
<td>89</td>
<td>-</td>
</tr>
<tr>
<td>Midl. 1</td>
<td>56</td>
<td>-</td>
</tr>
<tr>
<td>North 10</td>
<td>150</td>
<td>1</td>
</tr>
<tr>
<td>N.W. 1</td>
<td>26</td>
<td>-</td>
</tr>
<tr>
<td>N.E. 1</td>
<td>7</td>
<td>-</td>
</tr>
<tr>
<td>Total 18</td>
<td>328</td>
<td>1</td>
</tr>
</tbody>
</table>

By 1881 29,100 acres of wheat were reaped by machine and only 22,700 by hand. Ten years before, 59,600 acres were hand-reaped and only 3,800 acres were reaped by machine. Steam power came into increasing use as the number of steam threshers increased from 47 to 73. These replaced horse drawn threshers, the total of which declined from 205 in 1870 to 148 in 1888. In the north the number of horse power threshers declined from 53 to 20. As the reaper and binder made harvesting more efficient
the use of steam in threshing increased. The horse thresher was a small capacity machine and costs per bushel were high even if horses were not wanted for other farm work, as was often the case.

Chaff cutting was an important function of the thresher and the large increase in machines designed specifically for chaffcutting indicates the importance of fodder production after 1870 for use on the farm and as a cash crop. In the north in 1870 there were only 7 chaff cutters, all horsepowered. In 1888 there were 262 horse power, 24 steam power and three worked by other means. The increase was common to all districts, and the colony as a whole showed an increase from 12 horse power and 1 steam power chaffcutter to 681 horse power and 73 steam power chaffcutters and 55 driven by other means.

Many farmers used portable steam engines which could be hauled from farm to farm, but this was costly in hilly country. The steam traction engine which was employed on contract proved the more successful. (1) Chaff cutters powered by other means were largely manpowered but some must have been waterpowered. Many flour mills had other machinery built in. The Barton mill had a threshing machine built in, the Spreyton had a bone dust mill, drove saws, pumps, in short, everything. (2)


(2) Mr. K. Dallas, interview.
In 1870 there were no corn crushers, by 1888 there were 143 horse power, 30 steam power and 15 using other means. Northern districts predominated in the use of steam power, but the build up of steam driven equipment on the North West Coast is worthy of note.

Table 26.

<table>
<thead>
<tr>
<th>Threshers, Chaffcutters &amp; Corn Crushers, 1871 (a) and 1888 (b)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Threshers</strong></td>
</tr>
<tr>
<td><strong>a</strong></td>
</tr>
<tr>
<td>hp</td>
</tr>
<tr>
<td>South</td>
</tr>
<tr>
<td>Midl.</td>
</tr>
<tr>
<td>North</td>
</tr>
<tr>
<td>N.W.</td>
</tr>
<tr>
<td>N.E.</td>
</tr>
<tr>
<td>Total</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Corn Crushers</th>
<th><strong>Key</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>a</strong></td>
<td><strong>b</strong></td>
</tr>
<tr>
<td>South</td>
<td>-</td>
</tr>
<tr>
<td>Midl.</td>
<td>-</td>
</tr>
<tr>
<td>North</td>
<td>-</td>
</tr>
<tr>
<td>N.W.</td>
<td>-</td>
</tr>
<tr>
<td>N.E.</td>
<td>-</td>
</tr>
<tr>
<td>Total</td>
<td>-</td>
</tr>
</tbody>
</table>

The two decades 1870 to 1890 were generally more prosperous for agriculturalists. The "system" for rotation and fallowing remained much the same, but with increased stock and fodder demand, low wheat prices and the lack of good cheap labour, farming tended to become more efficient. Wheat, the staple in earlier years, ceased to have any real importance but potatoes and pulse acquired a new significance and for the first time artificial fertilizer was used extensively on cereal crops. The most outstanding advance, however, apart from the development of the
North West Coast, was the increased use of machinery on the farm. The 1870's and 1880's marked the beginning of transition to mechanized farming.
Chapter IV

Dairying and the Establishment of Butter Factories
Ch IV. Dairying and the Establishment of Butter Factories.

Until 1892 there was no organized dairying industry in Tasmania. Settlement had extended into heavy rainfall districts suited to dairying but the seasonal nature and perishibility of the product, transport problems and the limitations of the local market prohibited concentration on dairying in these districts. Dairying was confined to districts close to the Hobart and Launceston markets and considerable quantities of butter were imported yearly. (1)

In the 1890's, however, following the example set in Victoria and New Zealand, the factory movement was begun. The first factory was established at Wynyard in 1892 by the Table Cape Butter and Bacon Factory Ltd. This co-operative concern was modelled on the "Pioneer" factory at Cobden in Victoria. Mr. C.B.M. Fenton, Wellington's House of Assembly representative, visited this factory and obtained the information necessary for the erection of the Tasmanian factory. The manager, Mr. F. Callaway, was trained at Cobden. He supervised the erection of the building and the purchase and instalment of the plant, which was operated by steam power. (2) "De Laval" separators were installed - 150, 250 and 400 gallons per hour

(1) 1881, 53,000 lb. imported from Victoria (possibly transhipped from Ireland); 1882, 40,000 lb. (including cheese and lard; 1884, 81,000 lb; 1885, 53,000 lb; 1888, 342,000 lb; 1891, 273,000 lb.

(2) Early History of the Tasmanian Dairy Industry, a paper obtained from the Tasmanian Division of the Australian Society of Dairy Technology, (to be published.)
capacity—and churns of 200 and 500 pound butter capacity (the "Cherry" box type). A refrigerator was installed later. (1)

Within a very short time other factories were in operation, providing farmers with a new source of income when other agricultural and pastoral prices were low. The Council of Agriculture deserved most of the credit for this rapid development. One of the first actions taken by the Council after its formation in 1892 was to equip a travelling dairy manned by an expert who gave farmers in the various districts requesting his services practical instructions in scientific techniques. (2)

Factories were established where farmers could undertake to supply regularly a sufficient quantity of milk. Most were co-operatives, but several were privately owned. Official figures reported fourteen in operation in 1894, twenty three in 1900. Most were small concerns. A few factories were shortlived. They were hopefully established in districts little suited to dairying and farmers could not maintain an adequate supply. (3) The average value of plant in 1894 was £427 and average output was 665 pounds per week. In 1900 the average value of the plant was £552, output 660 pounds per week. The fact

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(1) Early History of the Tasmanian Dairy Industry.
that farmers could find the capital so soon after the bank crisis and commercial depression of 1892 indicates a relative prosperity. The number of employees rose from 55 to 92 in these years, and total production, as officially given, increased from 485,856 pounds valued at £18,181 to 789,989 pounds valued at £36,515.\(^1\)

There were a few purebred milking cows in Tasmania when factory production began, but the common cow was of very mixed breed. Some inherited good production traits from some source or another and examples were quoted of cows yielding from 10 to 14 pounds of butter per week during the flush period.\(^2\) The influence of the milking shorthorns imported by the Van Diemen's Land Company could be seen in some, but most were indifferent to poor milkers. Some of the larger framed were casually called Durhams and more or less served as dual purpose animals.\(^3\) There was no incentive to increase the size of the herds. Most of the few calves reared were fattened and slaughtered.

Butter factories tried several methods to gauge the quality of milk before the Babcock tester was introduced, but with no success. The Lactometre, for example, could

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\(^2\) Early History of the Tasmanian Dairy Industry.

\(^3\) Ibid.
not distinguish between rich milk and watered milk. Factories initially paid according to the gallon. This gave no advantage to the farmer with good cows and directly encouraged dishonesty by the supplier. (1) By 1896, however, the Babcock tester was in use. This permitted payment according to quality and so encouraged farmers to improve their herds by the use of purebred dairy bulls. The farmer could now cull his herd, weeding out poor milkers from the good. Many cows were found non-paying, costing, for example, some 2/- per week in feed while returning 1/6 per week in milk. (2) In 1896 it was estimated that the average Tasmanian cow yielded less than 2½ pounds of butter per week, which was very low indeed. As some herds yielded double or even triple this, the yield of many scrub cows must have been completely uneconomic. (3)

The Council of Agriculture made a strenuous effort to educate dairy farmers in the use of the Babcock tester and after its introduction herds were gradually culled and improved by the use of pure dairy bulls. Prices for dairy cows improved, giving new encouragement to breeders of dairy cattle. By 1914 a well known firm of stock agents specialized in high class dairy stock and the improvement

(3) ibid: op. cit., Jan., 1897, pp.110-111.
of herds was a noticeable feature at the principal dairy shows. (1)

Between 1892 and 1900 several advances were made. Creameries (separating stations) were set up to cater for dairymen in outlying districts. These served until about 1901 when farm separators came into general use, and within a few years milk deliveries gradually ceased and the supply was farm separated cream.

Dairying made farming viable on farms some eight or ten miles back from the coast, where transport costs were too high for the profitable sale of crops when prices were low. Then the cattle were turned in on the crop and the family survived on its cows and potatoes. Butter sales to the local stores payed for groceries. Creameries could not be set up further back from the coast as horse transport was slow and cream, after a few hours haul to the factory, jogged about in the heat, was already turning. On most small bush farms milking and churning were the children's job, and many children did not arrive at school before 10.30 a.m. (2)

In 1901 one third (13,000) of the state's dairy cows were on the North West Coast. The North East had 11,000. The only other areas with significant numbers were Sorell (1,400) in the South and the Huon (2,500). Part of Sorell

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(2) Mr. K. Dallas, Department of Commerce and Economics, University of Tasmania, interview.
has an exceptionally heavy rainfall for the south as it is within the 30" isohyet surrounding the Tasman Peninsula. These districts served the Hobart market. By 1913 there were 25,000 dairy cows on the Coast. Boundary changes made the situation in the North East more difficult to assess, but there appears to have been an increase to 6,000 by 1913 in the Ringarooma and newly defined Scottsdale district. These were the districts best suited to dairy farming. Elsewhere in the North East numbers diminished with the loss of the local market when alluvial tin petered out. In other regions, while there was no increase in numbers, the quality of the milking herds was improved.

The factory system flourished in the districts best suited to dairying but did not ruin the local market for farm made butter. Until the 1930's factory butter was considered inferior to good quality home made, and the factories did in fact remove a large quantity of butter from the hands of local storekeepers by placing it on the export market. Many farmers throughout Tasmania continued to carry a few dairy cows, making their own butter and selling the surplus to local buyers. By 1914 dairymen supplying milk to the cities had combined and fixed the price at a rate that paid them. (1)

Butter production for the period 1900 to 1914 showed an increase out of proportion to the numerical increase in

(1) Annual Report, Agriculture and Stock Dept., Agricultural Gazette, 1913-1914, p. 3.
cows. Numbers increased from 41,000 in 1901 to 58,000 in 1913; of this increase a gain of 12,000 was made on the North West Coast alone. Production rose from 790,000 pounds valued at £79,500 in 1901 to 3,317,500 pounds (£147,300) in 1911, dropping back to 2,432,100 pounds (£119,100) in 1914. This increase was due to culling, the use of the separator on the farm and the extension of factory operations, especially in the rapidly growing Scottsdale area. (1)

Butter exports became important after 1900. Small speculative exports had occasionally been made before butter factories were established, and almost as soon as the first factories were in operation a trial was made on the English market. In the 1893-4 flush season eight tons of butter were exported to England weekly (2) but the quality of these early exports was not good. This was attributed to the "sapping" of pasture in early spring and the delay caused by transshipment to Melbourne for grading. (3) Butter continued to be graded in Melbourne until 1914 but the use of the Babcock tester, culling and some pasture improvement resulted in the gradual improvement of exported butter. By the 1911-12 season 70.38 per cent of Tasmanian butter exported was first grade;

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(1) Dairy Inspector's Annual Report, Agricultural Gazette 1911-12, p.12. The co-operative movement was strengthened by the conversion of the Tasmanian Produce & Cool Storage Co. and the Pembroke Dairy Co. to co-operatives ibid.
(2) Journal of the Council of Agriculture, Dec., 1893, p.83
(3) Ibid.
although only 1.03 per cent was superfine; 26.84 per cent was second grade; 1.40 per cent third; and 0.36 per cent pastry. (1) Although the factory process did not produce a better product than the best home made butter until much later (the 1930's), when boric acid was no longer used and proper grading to test flavour was possible, it did enable large scale production of a fairly standard quality, essential for the development of a stable export. Under the Commerce Act factories making below standard butter were penalized. (2)

The value of butter and cheese exports rose rapidly from £6,000 in 1896 and £7,000 in 1902 to £16,200 in 1904. In 1906 exports were valued at £21,200, in 1908 £34,800. Most was sold on the colonial market. The quantity of butter transshiped to England from Melbourne was irregular and, if official figures are accurate, seldom significant. In 1904 £5,000 worth was transshiped, none in 1906, £138 worth in 1910, and £82 worth in 1914. Scandinavian and New Zealand butter and margarine proved strong competitors. However the year by year reports on the English market by the Dairy Inspector in the Agricultural Gazette and relative lack of comment on the Australian butter market suggest that exports to Britain may have been higher than those given in the official

(2) Ibid.
figures. As Tasmanian butter was transshipped under the Victorian label (1) this may have been so.

Figures for exports to other Australian states are not available for the years after 1909 but exports must have increased as nearly all factories added to plant and equipment, and several to their buildings at this time. (2) Trade facilities, however, could have been improved on railways and interstate boats carrying butter for export. In 1914 Tasmania still lacked cold storage accommodation suitable for butter and meat. (3) This would have enabled butter to have been cooled, graded and shipped in Tasmania. The first cool (louvre)d) trucks for carrying cream on the railways were used about 1912 and this innovation greatly improved conditions for carrying cream. (4)

The great attraction of dairying to farmers was that it provided regular monthly payments, but the by-products were also useful. Pigs and poultry were fed on skimmed milk. Pork and bacon were sold locally, in the cities and on the minefields, where the Chinese provided a particularly strong demand. (5) The market, however, was

(1) Agriculture and Stock Department Report, Agricultural Gazette 1912-13, p. 6.
(5) There were over 1,000 Chinese on the alluvial tin fields of the North East during the 1880's. Numbers dropped somewhat in the late 1880's but remained at a relatively high level (935 in 1891) until the late 1890's, dropping to 484 in 1901.
erratic. Farmers tended to neglect winter and spring feed for autumn fattening, and in season the market was glutted.\(^{(1)}\)

It is well known that if ever trucks of cattle or fat pigs are consigned to the capital over and above the week's requirements the market is glutted with the consequence a fall in prices.\(^{(2)}\)

Farmers began to use a better class pig for breeding and breeders were encouraged by this development. In 1911 a meeting of pig breeders resolved to send a trial shipment of pork to London. Two shipments were made. The first realized only 4\(\frac{1}{2}\)d to 5\(\frac{1}{2}\)d per pound, partly because several shipments from other Australian states had been condemned. The second realized 5\(\frac{1}{2}\)d. It was felt that in normal years pork would realize 6d per pound on the average, but the difficulties of shipment discouraged further exports despite farmers' discontent with the prospects of the pig industry.\(^{(3)}\)

The market for eggs was largely local although some thousands of dozens of eggs, mainly drawn from the north and North West Coast, were shipped from the south as ships' stores. Exports from Launceston were very small. Egg prices in Tasmania were even lower than in New Zealand but there were no large poultry farms and many small lots had to be collected to make a worthwhile export. For a

\(^{(1)}\) Annual Report, Agriculture and Stock Department, Agricultural Gazette 1911-12.


brief time a collecting depot operated to facilitate exports but this failed because of bad organization. (1) After 1910, however, a number of storekeepers exported profitably to other states (2) and, perhaps with an eye to future exports, experiments were being conducted by 1914 on the use of artificial incubators and the keeping quality of infertile eggs. (3)

(1) Ibid.
(2) Ibid.
(3) Ibid.
Chapter V

Livestock and Pastures 1890 - 1914
Ch. V. Livestock and Pastures 1890-1914.

In 1901 wool auctions were held in Hobart. There were initial doubts, but within ten years their success was assured. (1) Overseas buyers attended and by 1912 large quantities of wool were shipped direct to England, Europe and America. Less than 10 per cent was sent to London. (2) In 1912-13 22,000 bales were shipped from Hobart to Hull, Dunkirk, Antwerp, Bremen, Calais, Hamburg, Marseilles, London and New York and in the following year the export quantity was 4,000 bales higher, despite a very poor clip.

Part of this success was due to the building of a deep water wharf in Hobart. (3) Considerable quantities of wool were thereafter sent down by rail from the north instead of being shipped to Melbourne, (4) and more and more wool from the Midlands which had previously been consigned to London was presented at the Hobart sales. Hobart prices compared well with London prices. In 1912-13 up to 17½d was obtained for greasy wool. (5)

Crossbred and Comeback wool became increasingly common.

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(1) See Annual Report, Chief Inspector of Stock, Agricultural Gazette 1912-13, p.15.
(2) Annual Report, Chief Inspector of Stock, Agricultural Gazette 1913-14, p.18.
(3) Annual Report, Chief Inspector of Stock, 1912-13, op. cit.
(4) Ibid.
(5) Ibid.
at the Hobart sales between 1901 and 1914, while superfine Merino became scarcer every year. As we have seen, interest in Crossbreds was stimulated in the 1870's. The relatively high price commanded by Crossbred wool after the drop in wool prices in 1892 (see Table 27) further encouraged this shift in type. Attention to the comeback followed the discrediting of the Vermont and Negretti strains.

Table 27. Melbourne and London Wool Prices.

A. Seasonal Average Wool Prices at Melbourne Sales

<table>
<thead>
<tr>
<th>Season</th>
<th>Greasy Merino</th>
<th>Greasy Crossbred</th>
<th>Fleece and washed wool</th>
<th>Scoured Wool</th>
</tr>
</thead>
<tbody>
<tr>
<td>1884-5</td>
<td>10½</td>
<td>9</td>
<td>20</td>
<td>19</td>
</tr>
<tr>
<td>1885-6</td>
<td>8½</td>
<td>8</td>
<td>16</td>
<td>15</td>
</tr>
<tr>
<td>1886-7</td>
<td>10½</td>
<td>9</td>
<td>17</td>
<td>18</td>
</tr>
<tr>
<td>1887-8</td>
<td>2½</td>
<td>8</td>
<td>15½</td>
<td>16</td>
</tr>
<tr>
<td>1888-9</td>
<td>10½</td>
<td>10</td>
<td>18</td>
<td>17½</td>
</tr>
<tr>
<td>1889-90</td>
<td>11½</td>
<td>11</td>
<td>18½</td>
<td>19½</td>
</tr>
<tr>
<td>1890-1</td>
<td>9</td>
<td>9</td>
<td>15</td>
<td>16½</td>
</tr>
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<td>1891-2</td>
<td>8½</td>
<td>8½</td>
<td>13½</td>
<td>15</td>
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<tr>
<td>1892-3</td>
<td>8½</td>
<td>8½</td>
<td>13</td>
<td>14</td>
</tr>
<tr>
<td>1893-4</td>
<td>8½</td>
<td>8½</td>
<td>13</td>
<td>14½</td>
</tr>
</tbody>
</table>

B. London Prices for Australian Greasy Merino (Feb. prices)

<table>
<thead>
<tr>
<th>Year</th>
<th>Greasy Merino</th>
<th>Greasy Crossbred</th>
<th>Greasy Merino</th>
<th>Greasy Crossbred</th>
</tr>
</thead>
<tbody>
<tr>
<td>1883</td>
<td>12</td>
<td>8.8</td>
<td>1892</td>
<td>8½</td>
</tr>
<tr>
<td>1884</td>
<td>11</td>
<td>9.5</td>
<td>1893</td>
<td>8½</td>
</tr>
<tr>
<td>1885</td>
<td>10</td>
<td>9.7</td>
<td>1894</td>
<td>7½</td>
</tr>
<tr>
<td>1886</td>
<td>12½</td>
<td>9.5</td>
<td>1895</td>
<td>9½</td>
</tr>
<tr>
<td>1887</td>
<td>11</td>
<td>9.9</td>
<td>1896</td>
<td>9</td>
</tr>
<tr>
<td>1888</td>
<td>10</td>
<td>9.5</td>
<td>1897</td>
<td>9</td>
</tr>
<tr>
<td>1889</td>
<td>10½</td>
<td>10.3</td>
<td>1898</td>
<td>10</td>
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<tr>
<td>1890</td>
<td>11</td>
<td>10.1</td>
<td>1899</td>
<td>13½</td>
</tr>
<tr>
<td>1891</td>
<td>10</td>
<td>10.1</td>
<td>1900</td>
<td>15</td>
</tr>
</tbody>
</table>

(1) Barnard, The Australian Wool Industry, Appendix, Table XXVll, p.231.

(2) Ibid., Table XXVll, p.230
The late 1880's and 1890's were difficult years for wool-growers and studmasters alike. A bar on exports of sheep in 1888 due to an outbreak of scab (1) was followed by low wool prices. By 1894 wool on world markets was worth only 63 per cent the 1866-1876 average. (2) The banking and business crisis of 1892 further depressed the market for stud sheep. The critical event for Midlands pastoralists, however, was the 1902 mainland drought, which abruptly brought to an end the vogue of Vermont sheep. Vermont's could not withstand drought. (3) Woolgrowers immediately turned their attention to more suitable breeds and quality again became the criteria. They sought plain bodied sheep with an even covering of good quality wool. Few Tasmanian studmasters could now supply these requirements. Further, top quality superfine brought in little more than the stronger cutting wool of the Peppins, which cut more wool, and the few pure Merino studs found a poor market. (4)

Tasmania's developed studs were ruined and their sheep were dispersed. (5) Only a few studs survived. "Pure Tasmanian" lost most of its selling value and,


(3) Thinkell-Johnston, op. cit., p.63.


(5) Ibid., p.108.
commented Austin in 1947:

... few mainland studs from that day to this, have seen fit to publish references to rams which they had bought in former times from Tasmanian breeders. This need not have occurred had the Gibsons and the Archers retained the old type sheep, a type so prolific that it is on record that over forty years ago ten thousand four tooth unclassified wethers cut fifteen pounds of wool, three inches long, and off shears, averaged sixty pounds frozen weight. These were typical old Tasmanian sheep with short legs and big roomy bodies. (1)

With the developed strains discredited and many finewooled flocks ruined, more Comeback flocks were depastured on the Midlands hilly run country. This type was produced by using a Merino ram on stronger woolled half-bred ewes and a Leicester ram on the finer portion of the flock. The price was not fully that of Merino but more wool was cut.

Table 28.

<table>
<thead>
<tr>
<th></th>
<th>1911</th>
<th>1914</th>
<th>1911</th>
<th>1914</th>
</tr>
</thead>
<tbody>
<tr>
<td>Merino</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>X superior</td>
<td>14½</td>
<td>15½</td>
<td>13½</td>
<td>15½</td>
</tr>
<tr>
<td>superior</td>
<td>14</td>
<td>14</td>
<td>12 ⁴⁄₉</td>
<td>12 ⁴⁄₉</td>
</tr>
<tr>
<td>good</td>
<td>13²⁄₅</td>
<td>12 ⁴⁄₉</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Crossbred</td>
<td>1911</td>
<td>1914</td>
<td></td>
<td></td>
</tr>
<tr>
<td>fine</td>
<td>12 ⁵⁄₈</td>
<td>13 ⁵⁄₈</td>
<td></td>
<td></td>
</tr>
<tr>
<td>medium</td>
<td>10³⁄₄</td>
<td>13 ⁵⁄₈</td>
<td></td>
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Comeback flocks, like the Crossbred, tended to have uneven quality wool. If classing were not well done the wool clip varied too much. The Polworth and Corriedale

(1) Ibid., p.70.
(2) All figures unless otherwise stated are from the published government statistics of the years given.
breeds which have over the years replaced the Comeback and Crossbred provided a solution to this problem. By 1914 flocks of these breeds were already established although their replacement of the Comeback and Crossbred was a later development. The first Polworths were sent over from Victoria in 1902 for agistment. (1) The breed was evolved in Western Victoria in the 1880's by crossing Lincoln with Merino with a further cross of Merino on the progeny, and then inbreeding the resultant three quarter Merino - Comeback type sheep to obtain a fixed breed. (2) In 1906 Streamshalk on the Macquarie River imported Corriedale sheep from New Zealand. The Corriedale generally speaking replaced the Crossbred. Flocks were thriving in this district by 1914 and were also found on the South Esk.

In the 1913-14 season two Merino flocks realized the top price of 16½d, but several Comeback and Crossbred clips realized 14½d. (3) At the 1913 sales in Sydney and Melbourne there was little demand for stud Merinos. Long woolled Lincolns and Leicesters had "ample purchasers" and Corriedales sold well. In the previous season Corriedale wool had fetched up to 15½d per pound and


(2) Ibid.

(3) Annual Report, Chief Inspector of Stock, Agricultural Gazette 1913-14, p.18.
killing carcass was good. Prospects for Corriedale breeders were encouraging. (1)

Sheep and cattle numbers continued to increase from the 1870 low. The gain was mostly made in the North West and North East, as more land was cleared and pastures were laid. Sheep numbers along the North West Coast rose from 14,000 in 1870 to 36,000 in 1891 and to 59,000 by 1914. Boundary changes to the east of Launceston prevent a close analysis of the North East and northern plains districts, but in the area east and north east of Launceston, excluding Evandale, over-all sheep numbers rose from 224,700 to 266,300.

Much of the George Town and Fingal pastureland was long utilized run country, but settlement extended into the timbered country in the 1880's and George Town's sheep numbers rose from 19,500 to 25,100, Fingal's from 110,000 to 113,000. Fingal's numbers, however, fluctuated widely and in 1914 dropped to 80,400 following a bad season and the rabbit invasion dry weather brought with it. Portland's sheep numbers soared from 2,400 to 18,900. Although much land was cleared in this district over these years, it is probable that in 1891 some flocks were shown in the returns of neighbouring districts. The rapidly developing Ringarooma district only showed an increase from 25,600 to 29,500. The old Selby division, which contained 63,400 sheep in 1891, was abolished and the new

(1) Ibid., p.19.
districts of Lilydale, St. Leonards and Scottsdale showed 21,450, 32,500 and 29,700 sheep respectively.

In other districts the situation was more or less stagnant. Evandale had 93,000 sheep in 1914, a thousand more than in 1871, 20,000 less than in 1882 and 13,000 less than in 1891. Longford, with 123,000 sheep, had 4,000 more than in 1891 but 5,000 less than in 1882. Westbury's sheep numbers, which had increased from 47,000 to 72,000 between 1871 and 1882, dropped back to 60,000 by 1890 and stood at 67,000 in 1914. There was little profit in cereals and with the pastoral industry stagnant there was little to offer the youth in these districts which between the 1840's and the 1880's had been the most prosperous farming districts in Tasmania. In the Deloraine district, the bush country fringing the northern plains to the west, sheep numbers had expanded greatly in the 1870's (from 14,000 in 1871 to 36,000 in 1882) but thereafter stagnated until after 1891, and then rose to 43,000 by 1914. The South, with 257,000 sheep in 1871 and 271,000 in 1891, increased numbers by less than a thousand by 1914.

Cattle numbers followed much the same pattern. In the South numbers stagnated (266,000 in 1891, 263,000 in 1914), while on the northern plains and in the Midlands numbers declined. In the Midlands cattle numbers dropped from 32,900 in 1891 to 27,600. The problem in this region was not only one of fat stock prices but of poor pastures and the so-called Midlands cattle disease which, as miner-
als in the soil were depleted, caused the stunting and paralysis of cattle.

In the North interest in fat livestock slackened owing to low sale prices and to the high cost of cropping. Between 1891 and 1914 Deloraine's cattle numbers dropped from 13,700 to 10,650, Westbury's from 8,000 to 5,300, Evandale's from 4,900 to 4,200. In Longford alone, near the Launceston market, where cash cropping of wheat was largely abandoned, numbers increased from 5,600 to 6,700. In the North West and North East, however, numbers rose from 34,300 to 71,300. These pioneer regions became leading producers, having more than double the number of cattle in the south, the Midlands or the North. Fat stock raising and dairying became integrated aspects of mixed farming in combination with root, cereal and pulse cash crops.

The relative importance of small flocks on holdings of under 500 acres may be seen from the published figures for 1919-20. Similar figures are not available for 1914. They show that approximately one seventh of total sheep numbers were depastured on holdings under 500 acres in size. In that year there were 262 flocks totalling 5,862 sheep on farms of under 50 acres, 512 flocks totalling 20,714 sheep on farms of between 50 and 100 acres and 2,378 flocks totalling 205,121 sheep on farms of between 100 and 500 acres. There were only 134,118 sheep (552 flocks) on farms of between 500 and 1,000 acres. In all
there were 4,530 flocks in Tasmania in 1919-20 and a total of 1,781,425 sheep.

Figures were published in 1914 showing the number of hands engaged in various farming activities according to district. These figures proved unsatisfactory as it was impossible to apportion labour on the mixed farm, especially part-time female labour, and they were later discontinued. However, they do indicate the importance of pastoral activities in the North West and North East, which were previously essentially cropping districts. In 1914, of a total of 4,136 males engaged in farming on the North West Coast (cultivating, dairying, pastoral and fruitgrowing), 532 were principally engaged in pastoral pursuits. Of a total of 2,074 males on the land in the North East, 550 were associated principally with pastoralism.

In the North, however, only 378 of a total of 2,373 males engaged in farming were principally in pastoral activity. For the Midlands 713 men were shown in the pastoral category as against 709 in the cultivating group, 58 dairying and 63 fruitgrowing. In the south there were 424 of a total of 5,487 engaged in pastoral pursuits. In all in 1914, there were 2,603 men associated principally with pastoralism of a total of 15,633 on the land. Nearly 1,100 of the 2,603 engaged principally in pastoral pursuits were on the North West Coast and in the North East. In the older pastoral districts the situation was stagnant.

Although there was little major development in past-
oral technique other than in breeding between 1890 and 1914, there were some changes. Dipping to deal with ticks and lice was adopted about 1870, but was not common until the 1880's. In December, 1893 it was moved before the Council of Agriculture that dipping be made compulsory. Mr. Piesse, who proposed the motion, was of the opinion it would benefit farmers by £25,000 a year. When the matter was put before the local Boards for consideration many stud sheep owners objected on the grounds that their good reputation might be damaged and the prices obtained lower if buyers knew that dipping was necessary. Earlier legislation gave the Chief Inspector of Sheep the power to order sheep to be dipped if infected but the new measure aimed at preventing infection by the compulsory dipping of all sheep. Despite objections the measure was laid before Parliament and was passed.

This legislation particularly benefited small flock owners who fattened a few sheep. A Board member for Chudleigh - a district still being opened out in the early

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(3) Ibid.
(4) 53 Vic., No. 43.
(5) 60 Vic., No. 47.
1890's - said that he'd gained 2 pounds more wool at the expense of ½d per sheep since he had dipped. Previously sheep had broken the texture of their wool by rubbing, and their condition had been affected. (1) Those with only one or two sheep used the pig-scalding barrel for dipping, but most farmers had to provide dips. Labour saving spray dips were not common until after World War 1.

The Act proved difficult to enforce. It was amended in 1905 with little more success. In his 1912-13 report the Chief Inspector of Sheep estimated that 25 per cent of sheep owners were unco-operative.

It is inconceivable and lamentable to think that sheep owners, who are usually alive to studying their stock and wool profits will not, for their own pecuniary benefit, pursue a more forward and progressive policy. (2)

Wire fencing became common elsewhere in Australia in the 1870's but did not prove particularly successful until the invention of the wire strainer, which was in use by 1900. Until then a strong 'y' shaped forked branch was used to tighten and maintain tension. Wire fencing, however, was only gradually put to use in Tasmania. In the established areas fencing was adequate and wire was only used as original fences became unserviceable. In the pioneer districts timber was readily available and using timber helped clear the land and gave a cheap fence. How-

(1) *Journal of the Council of Agriculture*, Feb., 1894, p.68.
ever, wire fences were erected on the Milford and Cilwers estates in 1870, "parts of which consist of the ordinary post, with seven wire rails: this fence is erected at half the cost of the post and rail fence." (1) A Mercury Correspondent noted in 1883 many miles of rabbit fences which he thought must have represented an investment of some thousands of pounds. (2)

In 1893 the Journal of the Council of Agriculture gave the cost of the various types of fences in use. The post and rail was considered to be the best and cost 13/- per chain. The post and wire was not widely used but "before long will be much in favour." With steel wire this cost 11/- per chain, 13/6 with barbed wire. (3) By 1914 wire fences were common on pastoral estates, but were by no means general. Some of the original wooden fences still stand today; many in the south were destroyed in the 1967 bushfires.

Commercially successful shearing machines were on the market after 1887 (4) but even on the large mainland runs the change-over to machine shearing was slow owing to the depression of the 1890's. Machine shearing was more widely adopted after 1900 on the larger pastoral holdings.


(2) Mercury, 17 Sept., 1883, 'Through Tasmania', No.4.

(3) Journal of the Council of Agriculture, 1893, p.28. Paper, Mr. E. Dergess "Fencing".

in Tasmania as in other states. The first shearing machines were installed at Egleston which, with 40,000 sheep, was the second largest sheep station in Tasmania. They were driven by the steam engine which worked the hot water wash. (1) In 1914 there were 337 shearing machines in Tasmania (2); 205 were in the Midlands, the more purely pastoral region, 31 in the Longford district, 32 in Evandale and 32 in southern districts.

Machine shearing was quicker and lessened the risk of bad weather. The owner could have his wool in readiness for the first favourable market, and it was generally thought that early auctions gave the better price. More wool - by mainland tests found to be a little less than a pound per sheep- (3) was recovered by machine shearing, and this meant a large saving where flocks numbered many thousands. A bulletin published by the Agricultural Department in 1912 commented that "blade sheep shearing are giving way to machine shearing" and that the use of the machine was only a matter of ways and means. The advantage of the machine over the blade was fully appreciated. (4)

The difficulty of maintaining adequate pastures was

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(1) The History of Campbell Town, op. cit.
(2) Machinery statistics lapsed after 1896 and were not resumed until this time.
(3) Wheelhouse, Digging Stick to Rotary Hoe, p.145.
keenly felt after 1890 when wool and meat prices were low. The perennial problem of Tasmanian pastures was their thinness and the absence of sod which provides a bottom to feed. Weeds, moss and inferior grasses were common. In England finer grasses such as fescues and poas come up in permanent pastures, filling in spaces between the more rigorous growing grasses. In Tasmania these had to be sown. White clover and cocksfoot was the common mixture. Pastures were seldom "permanent". After a number of years, the length of time varying from place to place and often paddock to paddock, they became worn down, the finer grasses eaten out and pastures had to be re-established. Pastures had to be "farmed" for a good cover. The soil had to be given a thorough working and a topdressing of lime with or without finely ground mineral phosphates or Thomas's phosphate harrowed into the ground when the seed was sown. When the finer grasses were eaten out and the pasture again became thin it required resowing, preferably after spelling by cropping and fallowing. (1)

In the 1890's the mineral requirements of the Tasmanian soil became more widely understood. Until then, although the dangers of overstocking were obvious and fully appreciated, it was not widely realized that, like agricultural land, pasture land became depleted of natural minerals, especially lime and phosphates in which Tasmanian soils tend to be deficient. "It is scarcely necessary

(1) Annual Report, Agriculture and Stock Department, Agricultural Gazette 1912-13, pp. 3-5.
to remark that it is only soils under cultivation which are likely to become exhausted," wrote a contributor to the *Journal of Agriculture* in 1893. (1)

By 1914 attention was drawn to mineral deficiencies of the soil by the abnormal behaviour of farm animals:

That the grasses are so deficient is shown by the unnatural cravings that are developed by the animals depastured thereon, cravings which lead the stock to chew bones, waste lime, ashes, mortar or shells, or to devour the dead bodies of rabbits and other small animals. In addition to their developing these unnatural cravings the stock do not thrive as they should, and they frequently succumb to diseases of a more or less obscure nature. (2)

Much scientific work remained to be done before an adequate knowledge of Tasmanian soils was acquired. Deficiencies of copper, cobalt, molybdenum and zinc were not accurately known until after 1946. For example, the molybdenum deficiency of the long cropped Shaley Clay loam soils at Cressy (Longford) was unknown. Clovers would not grow and low stocking capacity forced continual cereal cropping as the sole profitable use. The Government Veterinary Surgeon worked on the Midlands cattle disease from the 1890's; by 1914 he had ascertained that this "disease", which resulted in small, stunted cattle subject to progressive paralysis, was attributable to some form of nutritional deficiency and was the same as that known as impaction paralysis in Victoria, "dry bible" in South

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(2) *Annual Report, Agriculture and Stock Department, Agricultural Gazette, 1911-12*, p.4.
Australia, and under a variety of names in South Africa, New Zealand, the South of England and Europe. (1)

A few wealthy landholders had applied phosphates to choice paddocks for wheat and fat lamb production since the 1860's (2) but cost prohibited its common use. "Farming" pastures was too expensive for farmers competing with stock raised on the indigenous pastures of other states, especially as an increase in production would lower prices in a good season. (3)

The 1912-13 Annual Report of the Department of Agriculture recognised that phosphates, although much needed, were uneconomic on pastures. The Report suggested that pastoralists combine to purchase South Australian phosphate rock and have it brought back to Tasmania as back freight in sailing vessels carrying timber. By this means, and with reduced rail freight charges, it was thought that phosphate could be procured at £3 per ton which, at 3 hundredweight per acre, would cost 10/- per acre. (4)

This suggestion was impractical in its demands on unorganized primary producers, but as it was the best suggestion that the Department of Agriculture could provide, it shows well how little farmers could in fact do. In Europe

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(4) Annual Report, Agriculture and Stock Department, Agricultural Gazette 1912-13, p.4.
Thomas's phosphate was available at a reasonable price, because it is a product of zinc refining with the application of sulphuric acid to rock sulphate, and most of the world's minerals were refined in Europe before World War I.

Tasmanian prices are not easy to ascertain as manure prices were not widely advertised in the local papers. Import values suggest that imported fertilizer was worth an average of £4 - £5 per ton, but individual imports differed widely in value. Imports from the United Kingdom must have been largely, if not entirely, Thomas's phosphate and averaged £6.4 in 1890 and £4.8 in 1913. Even at the lower 1913 price this was considered too expensive for use on pastures.

Lime was more readily available than phosphates, although local deposits were not widely exploited. In twelve months in 1913-14 929½ tons of lime were carried on the Government Railways. This was a large increase over former years and was stimulated by the offer of cheap railway rates for lime - ½d per ton per mile for lime in truck load lots. Lime reduces the nitrogen in the soil, neutralizes free acids and sweetens the soil, thus correct-

(1) Ibid.
(2) For import figures see the following chapter.
(3) Annual Report, Agriculture and Stock Department, Agricultural Gazette 1912-13, op. cit.
(4) Annual Report, Agriculture and Stock Department, Agricultural Gazette 1913-14, p.3.
(5) Annual Report, Agricultural and Stock Department, Agricultural Gazette, 1912-13, p.4.
ing the effects of continual manuring with acid phosphates. Before this farmers had had to use nitrogen which was the dearest plant food and cost 8d to 11d per pound. Potash cost 3½d per pound and phosphoric acid 1½d to 3½d according to solubility. (1)

In summer pastures were lush and stock gained condition, but in winter they deteriorated. Lack of supplementary fodder and shelter caused heavy lambing and calving losses:

We annually experience heavy losses amongst our lambing ewes, and our percentage of lambs is much lower than it should be. This could be obviated by providing shelter and saving food for winter use as is done in much colder lands than this where the loss is only a fraction of that experienced here. (2)

Shortly before World War 1 lambing figures were published. Lambing rates were highest in the North West but very poor in the Midlands, northern plains and North East. Glamorgan, with the largest sheep population in the South was shown as having 18,700 ewes put to rams in 1914, 12,860 lambs dropped and 11,745 marked. In the Oatlands district in the Midlands, 55,459 ewes were put to rams, 44,706 were dropped and 39,520 were marked.

For Fingal in the North East the figures were 35,994, 23,795 and 20,199 respectively, for Longford, with the greatest sheep numbers in the northern plains, the figures read 46,963, 36,274 and 34721 and for Deloraine to the

(1) Annual Report, Agriculture and Stock Department, Agricultural Gazette, 1913-14, op. cit.
(2) Annual Report, Agricultural and Stock Department, Agricultural Gazette, 1912-13, p.5.
north west, 19,570, 15,716 and 15,512.

Neglect of winter feed reflected the depressed state of the market. It was more profitable to export feed. In 1913 however, because of poor seasons on the mainland, widespread deterioration of pastures and the drop in livestock numbers in Tasmania (a loss of 107,300 sheep and 16,400 cattle) following the dry season, grass grubs and rabbits, prices rose to 40/- a hundred pounds for mutton and 5d to 6d per pound for beef.

On the basis of these prices the Agriculture Department urged farmers to abandon the "old system" of trusting to Providence for feed. This served when prices were low and extra expense did not pay, but with prices high "the sooner we take a lesson from New Zealand" in stockraising and feeding "... the sooner we will have stock suitable to keep freezing and canning works going". In 1912 three farmers between Andover and Campbell Town in the Midlands, spurred by the possibility of frozen exports, experimented with pasture topdressing. Within two years one small paddock which had never before been able to carry more than 30 to 40 sheep carried 65 stud sheep "all in tip top order". The cost was 13/8 per acre.

(1) Annual Report, Agricultural and Stock Department, Agricultural Gazette, 1913-14, p.5.
(2) Ibid.
(3) Annual Report, Potato and Agriculture Inspector, Agricultural Gazette, 1912-13, p.25.
(4) Annual Report, Agriculture Inspector, Agricultural Gazette 1913-14, p.32.
The dry season brought better prices but took a heavy toll on pastures and on dairy farmers. Conditions were ideal for rabbits, which proliferated rapidly in the once timbered mixed farming areas of the North West and North East. They were little problems in these districts until this dry spell, perhaps because of natural enemies such as native cats which, however, were gradually killed off.

John Rowland Skemp, in Memories of Myrtle Bank, described the effect of the sudden increase in rabbits in the North East in 1914, the driest season on record at Myrtle Bank.

Whether because of the extirpation of native cats, which also harried the settlers' fowls, or influx from other districts in search of fresh pastures, rabbits were to be seen in hundreds. And, once so established, they remained in abundance...

Ten rabbits, some estimates make it six, can eat as much as one sheep, and fifty rabbits can eat as much as one cow, so a rabbit population of one thousand and plenty of small farms carry more meant a hundred less sheep or twenty less cows on the place, while the remaining stock were deprived of the better pasture...

Not only was the farmers' stock deprived of its pasturage, but the hay saved for winter fodder was no longer available. There was now no surplus grass to be cut for meadow hay... As soon as the oats came into ears they were taken in a face, making it look as if a header had been over the paddock. It became impossible to grow swedes and carrots unless they were enclosed by wire netting... potatoes were scratched out of the ground and orchard trees were ringbarked.\(^1\)

Farmers had to buy fodder for winter months, but even so some stock died of starvation and cows provided little

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milk. Dairying returns were used to buy fodder for the winter: "the farmer was keeping the farm, not the farm the farmer."(1)

By 1914 the pastoral industry was in difficulties. Pasture deterioration was widespread and could be observed even on recently developed land. English grasses would not grow unaided and prices did not justify the expenditure. Not only had attempts to exterminate rabbits failed, but they had spread from the pastoral areas into even semi-cleared mixed farming regions. The rise of sheep numbers from the low of 1870 was stayed in all but the developing regions, where new land was being brought into use, and numbers in all regions were severely affected by the dry at the end of the period in question. High prices in 1913 were achieved at considerable cost to the industry and could not be maintained. Large sheep and cattle imports could soon be expected to resume. Greater scientific knowledge of soil types and needs, and the availability of phosphates and other fertilizers at an economic price for the farmer were essential before any real and solid prosperity could be regained.

Much of the prosperity of the pastoral industry had been due to the achievements of the stud breeders. However, sale trends after 1890 had been disastrous for Tasmanian studbreeders. Time had proven their judgement

(1) Ibid.
erring, and many famous studs had had to be disbanded while the few pure Merino studs remaining had lost favour.

There were positive achievements in the pastoral industry in these years. Mixed farming extended in newly developing regions, the Hobart wool auctions were most successful, some technical improvements were made, and new breeds appeared to meet changed circumstances. These achievements, however, were not sufficient to counter the problems facing stock owners. The decades of prosperity before 1890 had given way to less expansive and more difficult years for many pastoralists.
Chapter V1

Mixed Farming 1890 - 1914:
Rural Population, Crops and Farming Technique
Ch. VI. Mixed Farming 1890 - 1914: Rural Population, Crops and Farming Technique.

The number of persons engaged in agriculture rose from 14,584 to 17,348 between 1891 and 1901, and increased to 19,492 by 1911. Of these, 6,295 or 43 per cent in 1891, and 8,949 or 45 per cent in 1911 were wage earners. By comparison, however, there was a greater increase in the number of employers (2,265 in 1891, 3,028 in 1901 and 4,287 in 1911), reducing the average number of agricultural wage earners to employers from 2.8 in 1891 to 2.1 in 1911. There were also 3,903 persons engaged in agriculture in 1891 who were classified as "relative assisting", while in 1901 and 1911 there were 4,578 and 2,687 respectively classified as "receiving no salary". Owner occupiers, by implication hiring no labour, numbered 3,319 in 1891, 4,340 in 1901 and 3,573 in 1911. (1)

There appears to have been a shift from reliance on hired help and a drift to the towns by hired and family labour, a trend confirmed by other figures. In 1881 47.5 per cent and in 1901 57.5 per cent of the population lived in towns of more than 100 dwellers, while the number of towns had doubled. (2) Until after 1901 a drift to the city was less marked. Hobart city's population rose by

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(1) All figures unless otherwise stated are from the published government statistics for the years given.

less than 4,000 between 1881 and 1901 (20,701 in 1881, 24,654 in 1901), but rose by nearly 3,000 to 27,526 in the following ten years. Between 1881 and 1901 it was the suburbs and districts immediate to Hobart which increased. In 1881 there were 26,841 persons and in 1901 34,560 persons in Hobart city and the New Town, Queenborough and Glenorchy municipalities. The population of these municipalities totalled 37,899 in 1911, the city and not the suburbs making the gain.

Most of Hobart's rural hinterland was stagnant. The Huon and Kingborough populations increased from 7,506 in 1881 to 9,764 in 1901, but thereafter ceased to grow and totalled only 9,332 in 1911. Apart from the New Norfolk municipality where population rose from 3,641 in 1881 to 4,764 in 1901 and 6,124 in 1911, other southern districts lost not only natural increase but actual population. Brighton's population dropped from 2,028 in 1881 to 1,813 in 1901, picking up only slightly to 1,941 by 1911. Richmond's population fell from 2,171 to 1,798 between these years and Sorell's population fell by 21 to 2,060. The population of the municipalities in the Midlands also declined, totalling 10,133 in 1881, 10,499 in 1901 and only 9,952 in 1911.

Launceston's population rose more than Hobart's, increasing from 12,686 in 1881 to 18,022 in 1901 and to 20,754 in 1911. Only 48 per cent of Tasmania's population in 1870 lived north of the line from Swansea to Tunbridge defined by Geoffrey Blainey as dividing off the
south east section of Tasmania, but by 1901 62 per cent lived in the northern sector. (1) Unlike the south, farming in the north was stagnant only on the northern plains, and although the population of the Westbury, Longford and Evandale municipalities fell from 12,245 in 1881 to 11,453 in 1901 and to 10,080 in 1911, the population of Deloraine and the north western districts rose from 17,959 in 1881 to 34,136 in 1901 and to 41,361 in 1911.

The increase in the north east is more difficult to evaluate as the fortunes of mining obscured the farming situation in this region. Until 1900 many men combined mining and farming; by 1900 alluvial tin was petering out and men left the fields. Nevertheless, population north east of Selby (excluding Launceston city and the Evandale district) totalled 14,351 in 1881, 22,502 in 1901 and 23,782 in 1911.

Better wages in the towns, the mines and in other states drew labourers away from the land. Farmers were forced to use machinery more extensively, even in the once timbered districts which had previously been only partially cleared. Increased mechanization was a main characteristic of the years 1890 to 1914, and was facilitated by the trend to larger farms. In 1904 40.3 per cent of all holdings were under 50 acres, but in 1911 only 34.4 per cent were of this size. Farms of between 50 and

(1) Ibid.
100 acres decreased from 18.4 to 17.5 per cent of total holdings. Farms of between 100 and 500 acres, however, increased from 30.3 to 37.1 per cent of all holdings, and those of 500 to 1,000 acres represented 4.3 and 511 per cent of total holdings in 1904 and 1911 respectively.

Although holdings of 1,000 to 5,000 acres diminished in proportion to the total number of holdings (4.6 to 4.4 per cent), they increased numerically from 498 to 589, showing an increase in size of farms up to and just over 1,000 acres but a decrease of those nearer 5,000 acres. All categories over 5,000 acres decreased numerically and as a percentage of the total. There were 124 holdings of between 5,000 and 10,000 acres in 1904 and 119 in 1911, while there were 96 holdings over 10,000 acres in 1904 and only 79 in 1911. The decrease in number of larger properties reflected the decline of pastoralism and pastoralism combined with wheatgrowing on the large scale.

As shown above, farms of under 100 acres were of less significance by 1914 than previously. All virgin land in the timbered region which could be exploited profitably had been taken up, and the pioneer era was passing. Land remained which potentially could be used for agriculture but was covered by impenetrable bush, in some cases required drainage, and lacked transport facilities. Even if clearing costs and road requirements could be met, most of this land was too far back from the coast to be anything other than marginal land. The Rogers River -
Montagu Swamp area in the Wellington district is a typical example. In recent years it has been cleared and has proven excellent for mixed farming, but it was developed after the advent of the tractor and the motor lorry. It is not therefore surprising that earlier legislation to foster selection, improvement and to prevent dummying in this and other districts proved ineffectual. (1)

The Government made several efforts towards closer settlement in these years but with agricultural and pastoral prices low these efforts met with apathy. At Beaconsfield land was improved and roads built but there was an applicant for only one of the eleven lots. (2) Nor was Government repurchase for closer settlement a success. Much of the land was overvalued and unsuited for the use to which it was put, while many of the men settled on it proved poor farmers. (3)

This was an era of consolidation in the "pioneer" districts, and was marked not only by a trend to a more economic size of holding and increased use of machinery, but also by intensified attention to land and crop to ensure maximum yields on a depressed market. The widespread use of more scientific methods owed much to the activity

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(1) Compare Roberts, op. cit. p. 326 ff. Refer this study for detail of legislation and closer settlement.
(2) Ibid., p. 327.
of first the Council of Agriculture and later the Department of Agriculture. The Council was created by Act of Parliament (55 Vic. No. 43) in December, 1891 and the Inaugural Meeting was held in May, 1892. Its first Journal was published in August, 1892. A Department of Agriculture was also formed. In 1896 the Department took over the control of the agricultural officers, who were originally responsible to the Council of Agriculture. Thereafter the Council lost some of its effectiveness. (1) It was abolished in 1909 with no mention made of its demise in the Agricultural Gazette, the Departmental publication which evolved from the Council's Journal. The local Boards of Agriculture continued. These bodies educated farmers in improved methods and without the instruction provided by the various officers and the Journal of the Council of Agriculture, it seems doubtful whether the widespread adoption of improved methods would have been possible for smaller farmers.

During the 1890's cereal prices fell below the already medium to low level established. Wheat worth about 5/- per bushel in the 1870's (2) and 4/8 to 4/9 per bushel

(1) Refer Journal of the House of Assembly, 1902, No. 49 Select Committee ... To consider the present position of the Council of Agriculture and desirability of amending the Department of Agriculture Act, 1891.

(2) Prices given are the Hobart prices given in the official statistics of the years stated.
in 1892 thereafter dropped to 3/3 - 4/1 the following year and to an average of 3/4 the next. By 1898-9 wheat brought in 2/- to 2/3 per bushel. (1) In 1901 prices rose to 3/2 to 4/4 and to 4/- to 5/6 in the drought year of 1902. As with other farm products such as meat, local wheat prices were profitable only when misfortune removed competition from mainland farmers. Between 1904 and 1907 wheat prices ranged between 2/6 and 3/9. Thereafter they rose a little. In most years the minimum Hobart price was 3/9. The maximum ranged from 4/3 to 4/7 per bushel.

Barley was equally unremunerative. As a cash crop it was grown almost entirely between Evandale and Westbury and was worth 2/9 to 4/6 in Hobart in 1890 but fell to 2/- to 2/9 per bushel by 1899-1900. Prices rose a little thereafter but until 1907 3/9 was the maximum price, a little more thereafter.

Oats fell from 3/11 in 1873-74 to a low of 1/9 to 1/11 in 1890-91 following the downward trend in pastoral and fat stock prices in the late 1880's. They were usually worth a few pence more in the following years but remained at a very low level. In 1910-11 the price was 1/11 to 2/3 per bushel, rising only a little in the following years.

Hay prices were barely remunerative. In the 1870's prices ranged between £3 5/- and £5 2/- on the Hobart

(1) Journal of the Council of Agriculture, Sept.- Oct., 1893, p. 7. Wheatgrowing at St. Mary's was unprofitable at 4/6 per bushel allowing for costs.
market. At this time, as we have seen, £3 per ton was considered to give little or no profit. During the 1890's in most years hay was worth £2/5/- to £3.

A fall in wages from 16/- to £1 per week in 1890 to 10/- to 12/- per week after 1892 somewhat reduced farm costs, but although there was no shortage of cheap farm labour there were few skilled men available, (1) and greater use was made of harvesting and other farm machinery. (2) Statistics for farm machinery, however, were not collected after 1896 until the end of the period in question, when they were recommenced in a much simplified form which made close comparison impossible. Nevertheless it is apparent from the figures available that by 1914 farming was relatively highly mechanized, effecting a saving of labour, cleaner crops and more intensive cropping. Even in the once timbered districts the impediments to mechanized farming had been dealt with on all but newly broken-in ground. It is also clear that cash cropping in these regions was profitable, despite low prices, as machinery represented a heavy investment for small farmers.

In the six years 1890 to 1896 the number of reapers and binders doubled from 614 to 1,248, while the number of steam threshers rose from 89 to 105. The number of horsepower mowing machines also increased from 331 to 405.

(1) Journal of the Council of Agriculture, Nov, 1893, p.29
(2) Ibid.
These were used for cutting grass hay, the machine cutting close to the ground. The loose hay had then to be raked and turned before carting to the barn or stack. The reaper and binder was used to cut sheaf hay. The cost of haymaking and carting was cheaper using the reaper and binder and the chaff had greater food value than grass hay, which was full of weeds and rubbish. However, binder hay had to season in stocks for 10 to 14 days and in a wet season might be spoiled. The mower was also used to harvest peas, which probably accounted for some of the expansion in these years. Horse power chaff cutters increased in number from 764 to 935, steam-powered from 113 to 250. Other forms of harvesting machinery declined - the horse-power thresher (from 148 to 89), reaping machines, strippers and reapers. The more efficient machine replaced them. The other major advance between 1890 and 1896 was the widened use of subsoil ploughs. There were 323 in use in 1890, 544 in 1896. Double furrow ploughs, numbering a thousand in little more than a decade after their introduction, increased by 200 in these six years.

In the following eighteen years the number of reapers and binders doubled, totalling 2,605 by 1914. Most remarkable was the increase in this type of machinery on the North West Coast and in the North East. In 1914 there were 866 reapers and binders on the North West Coast and 709 in the northern districts, of which the "pioneer" district of Deloraine with 233 had the greatest number.
Westbury had 216, Longford 181. The north east with 337 also developed considerably in mechanized farming. The Midlands had 239 and there were 454 reapers and binders in the south. This represented a remarkable advance on the Tasmanian total of 614 in 1890.

Ploughs numbered 14,382 in 1914 but no break-up was given. Various types were useful for different jobs and their use according to requirement had become standard even in the "pioneer" districts. Harrows were also in common use on farms and in orchards. There were 10,272 in 1914. There were 3,766 ploughs and 2,791 harrows on the North West Coast as against 2,580 ploughs and 1,768 harrows in the north, where again the once timbered Deloraine, with its many small farms, had the largest number - 877 ploughs and 679 harrows. The south had 3,587 harrows which, apart from their general use on the farm, were of utmost value for clean cultivation in orchards. The Huon, with 466, had the greatest single number.

The horseshoe, grubber and scarifier category, with harrows excluded from this category in the 1914 returns, totalled 4,030. There were only 348 cultivators in 1896, but 4,699 in 1914. Horseshoes and scarifiers, much the same thing, were used to loosen the soil between the rows and to control weeds and moisture. The cultivator, a multi-blade enlargement of these, was used only to prepare the soil. The farmer waged a constant battle against
weeds in these years and took every precaution to ensure a clean crop and maximum yields. Marketing restrictions and low prices made this essential. For this reason drilling also became standard practice. The number of drills rose from 358 in 1896 (481 in 1890) to 2,072 in 1914.

An astringent and timely article, "Agricultural Yields in Tasmania" by Tourist appeared in the Journal of Agriculture in 1894, pointing out that yields were declining and lime was needed on the relatively new land of the North West Coast. It provoked wide interest. (1) Farmers debated whether fertilizers could be used profitably while prices were low, and this was a leading topic of discussion in 1896 at branch meetings of the Council of Agriculture. (2)

Over the years, however, cheaper fertilizers became available and after 1896, and more especially after 1907, imports of fertilizer increased. In 1860 1,100 tons valued at £11,200 were imported, in 1870 2,000 tons valued at £12,100 and in 1880 2,500 tons valued at £16,860. In 1890 4,100 tons were imported valued at £19,500, and imports remained at about that level until 1896, when 6,400 tons valued at £22,500 were imported. The level of imports increased between 1896 and 1899, in which year 8,700 tons of artificial fertilizer worth £32,100 were imported. Thereafter imports dropped and

(1) Journal of the Council of Agriculture, 1894, pp.139-140.
although quantities imported fluctuated from year to year they generally remained below this level. In 1906 6,600 tons worth £45,000 were imported. In 1907, however, 14,200 tons were imported valued at £62,400, in 1908 12,100 tons valued at £55,300, and in 1909 13,500 tons worth £56,600.

It may be seen that although values fluctuated the average value per ton declined. Fertilizers varied in cost according to type and quality. After 1890, if not before, there was a lot of low quality manure on the market. Farmers tended to buy anything cheap with a new label and this encouraged dishonesty by both manufacturers and agent. (1) The Manure Adulteration Acts of 1893 and 1898 assisted the farmer for a while, but virtually ceased operating once the influence of the Council of Agriculture waned, and a new Act had to be passed in 1912 to tighten their operation.

After 1896, when imports increased, fertilizer began to be extensively used on North West Coast farms. New returns from dairying may have helped to make this possible. Thomas's phosphate and bonedust were widely used by about 1900 along the Coast. (2) In 1897 it was reported that 2,800 tons of imported manures were sold that year between Westbury and Circular Head. Much arrived in

(2) Mr. Marshall Snr., of Clements and Marshall, Devonport, interview.
small parcels at the small coastal ports. (1) Soils here were very fertile when first cultivated because of heavy humus deposits on forested land, but did not remain fertile for long. However, as North West Coast farms were intensively cash cropped, farmers found it profitable to use fertilizer. Travelling salesmen visited farms along the Coast selling fertilizer and other goods, buying agricultural products and, in some cases, taking consignments of potatoes and other products. (2) Natural manure was not as widely used on the Coast as in the North East, where cash cropping was less remunerative and cartage costs were high. Only 2,200 tons of natural manure was used on the Coast in 1914, when statistics were published for the use of fertilizers, compared with the 14,500 tons used in the North East. On the other hand, more than 20,000 hundredweight of artificial manure was used in the Table Cape district alone.

The rise in wheat and barley prices probably accounted in part for increased imports of fertilizer after 1906. Longford, the first extensive user of guano, remained one of the largest users. In 1914, 20,000 hundredweight of artificial manures (supers, phosphates and bonedust) and a further 1,000 tons of natural manure were applied in this district. Westbury farmers used 16,000 hundredweight

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(2) Mr. Marshall, interview.
of artificial manure and 1,400 tons of natural manure. By 1914 it was standard practice to use artificial manure for cropping, especially on long farmed land. The southern farmers were the largest users of natural manure (17,400 tons), cash cropping being of relatively lesser importance in this region.

The cost of fallowing was also felt by cereal producers on the northern plains when cereal, wool and livestock prices were low. The system of two cereal crops and a third year fallow for three years rent and one manure bill often did not pay. (1)

A Coast farmer grows a crop of six tons of potatoes to the acre at less than half the cost for cultivation that an acre of wheat in the wheat region is grown, besides which for the wheat a summer fallow, entailing rent and interest, together with manure is requisite, leaving the land after the crop out of heart, whereas the potato grower, through using bought manure, as the wheat grower does, has his land left to him in good heart and fit for anything. (2)

Where a third crop of roots or peas was possible as an alternative to fallow (sometimes a mixture of all three), the financial overload on the two cereal crops (wheat and wheat, or wheat followed by oats or hay, sometimes barley) was less, but this system was better suited to the North West Coast or Deloraine and parts of Westbury than to Longford. A pea crop required phosphate, but then the

wheat crop following did not. (1) 

The average yearly production of wheat had fallen from 1,066,000 bushels between 1861 and 1870 and 889,500 bushels between 1871 and 1880, to 756,300 bushels between 1881 and 1890. During the 1890's, however, the average yearly production rose to 1,299,700 bushels. This was probably because of the low prices. Farmers on the northern plains, apart from the fringe, could grow little but cereals, and they were hard hit by low wool and livestock prices and the reverses in stud breeding. In better years they were concerned lest overproduction should cause a drop in prices; (2) with prices rock bottom in the late 1890's there was little to be lost.

Great interest was shown in experiments conducted by a farmer, Frank Maddox, at Eastfield in the late 1890's with different seed types, pickled seed and manures. (3) He began these experiments on his own initiative and was later given full publicity and assistance by the Council of Agriculture. However, the hard grain types, which commanded better prices on mainland markets, did not yield as prolifically in Tasmania as the soft grains, and most farmers had to continue cultivating soft grain types. (4)

(3) Journal of the Council of Agriculture, Nov., 1893, p.18 (for previous experiments with pickled seed see ibid., p.25.) Notes and Results of Agricultural Experiments at Eastfield, Newnham by Frank Maddox (Tas., 1897) published by the Launceston Examiner.
although the type the miller would accept, depending on his milling process, was a further factor.

Roller milling developed in Tasmania between 1890 and 1893, but Victorian wheat was better for roller milling than Tasmanian wheat. As railways extended, flour made from imported grain at mills near the ports undersold flour from other mills. Country mills closed and wheat demand ceased in inland districts.\(^{(1)}\) There were only twenty seven flour mills operating in 1900, twenty in 1904 and sixteen in 1914. Wheat production between 1901 and 1910 remained at much the same level as between 1870 and 1890, averaging 808,800 bushels yearly. After 1911 wheat production dropped off even further, partly because of drought and rabbits also. The yearly average between 1911 and 1914 was 202,400 bushels. The table below shows that as wheat acreage declined, the acreage in hay doubled.

<table>
<thead>
<tr>
<th>Region</th>
<th>1891</th>
<th>1901</th>
<th>1911</th>
<th>1914</th>
</tr>
</thead>
<tbody>
<tr>
<td>S. &amp; S.E.</td>
<td>117</td>
<td>90</td>
<td>114</td>
<td>38</td>
</tr>
<tr>
<td>Midlands</td>
<td>75</td>
<td>52</td>
<td>64</td>
<td>14</td>
</tr>
<tr>
<td>North</td>
<td>300</td>
<td>282</td>
<td>251</td>
<td>107</td>
</tr>
<tr>
<td>N.W.</td>
<td>86</td>
<td>66</td>
<td>58</td>
<td>12</td>
</tr>
<tr>
<td>N.E.</td>
<td>11</td>
<td>28</td>
<td>35</td>
<td>13</td>
</tr>
<tr>
<td>Total</td>
<td>589</td>
<td>518</td>
<td>522</td>
<td>184</td>
</tr>
</tbody>
</table>

\(^{(1)}\) Mr. K. Dallas, interview.
Table 29. (Cont.)

<table>
<thead>
<tr>
<th>Region</th>
<th>1891</th>
<th>1901</th>
<th>1911</th>
<th>1914</th>
</tr>
</thead>
<tbody>
<tr>
<td>S. &amp; S.E.</td>
<td>142</td>
<td>144</td>
<td>210</td>
<td>201</td>
</tr>
<tr>
<td>Midlands</td>
<td>56</td>
<td>67</td>
<td>86</td>
<td>77</td>
</tr>
<tr>
<td>North</td>
<td>180</td>
<td>262</td>
<td>293</td>
<td>217</td>
</tr>
<tr>
<td>N.W.</td>
<td>49</td>
<td>91</td>
<td>270</td>
<td>221</td>
</tr>
<tr>
<td>N.E.</td>
<td>27</td>
<td>49</td>
<td>139</td>
<td>125</td>
</tr>
<tr>
<td>Total</td>
<td>454</td>
<td>613</td>
<td>998</td>
<td>841</td>
</tr>
</tbody>
</table>

The greatest increase, as may be seen, was in the North west and north east where more land was brought into full production and stock numbers increased, especially after the establishment of butter factories. The cities, the mines, and Melbourne provided cash markets for hay. Although wheat exports were a thing of the past, hay exports from the North West Coast grew. In 1908-9 Tasmanian wheat production was estimated to be worth only £145,800, but hay was valued at £481,200, and was the largest single agricultural crop. Oats were valued at £243,300 and straw at £109,100, and as hay and straw were largely oatene, the value of this cereal is readily apparent. Potatoes were valued at £425,600, and the only other agricultural crop valued above £100,000 was the apple crop, worth £173,500. The value of wool production was estimated at £480,000, a thousand pounds less than the value of hay. In the 1912-13 season hay was valued at £549,200, oats at £263,300 and straw at £85,100. Wheat was valued at only £115,600. Potatoes were estimated to be worth £435,400, apples £316,200, and wool £509,500.

Farmers on the North West Coast and in the North east
had the advantage over farmers in most other regions in that the rich basalt soils (more broken in the North East) and heavier rainfall made possible a flexible farming and marketing pattern. A variety of crops – cereals, roots, pulse and pastures – could be grown and profitably combined with dairying, which meant that the farmer was not dependent on good market prices for any one item. Wheat, oats (harvested for seed or cut as chaff), peas and root crops were harvested as cash crops when prices were remunerative; if prices were not remunerative crops were fed to the stock. Even when fat stock prices were low the butter factory provided a payment and the skimmed milk could be used for the family and the pigs.

Peas became an increasingly important crop after the 1890's, when the low prices offering for all crops forced initiative in the development of all possible sources of farm income. The first serious attempt was made to export peas. The Australian and the English market proved reasonable but by no means extremely profitable. With manuring the crop grew well in the North East, North West and in the Westbury and Deloraine districts, and yields were normally over 20 bushels an acre, often much higher. The minimum Hobart price was seldom below 3/- and the maximum often above 4/-. These prices were adequate if yields were good, and pulse made an excellent rotation.

crop. The real problem was the harvesting. The thresher tended to split the peas. When this problem was overcome a few years later pea acreage increased. (1) In a bad season the seeds sprouted, but where there were dairy cows it could be harvested when partly mature and turned into ensilage. The first year of widespread experiment with ensilage was 1893, when it was tried at New Norfolk, Evandale, Richmond, St. Marys, Scottsdale and Stanley. (2)

The real increase in pea acreage occurred after 1900. In 1891 there were 9,800 acres of peas in Tasmania, which had grown only to 11,200 acres by 1901. In 1911, however, there were 16,900 acres. Of the 1891 total, the districts with the largest acreage were Westbury (960 acres), Deloraine (1,137 acres) and the Mersey (1,065 acres). There was a total of 2,285 acres on the North West Coast as a whole. In 1901 there were 1,111 acres grown in the Westbury district, 2,112 acres in the Deloraine district and 1,207 in the Mersey. The North West Coast total acreage increased by about 400 acres to 2,695 acres. By 1911, however, the acreage on the North West Coast, then comprising several more new districts, totalled 6,557 acres, the greatest single acreage (1,836 acres) being at Table Cape. The Westbury district had 1,836 acres in cultivation, and

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(1) A longer pulley was fitted to the drum which drove the beaters more slowly, and was in use about 1920. Interview, Mr. Lillico, farmer, at the Forth.

Deloraine had 3,239 acres.

Potatoes were sold on the local and the Sydney markets. Sydney was supplied mainly from the North West Coast and from Victoria. However, Tasmanian potatoes were subject to fungoid growths in humid seasons and prices were highly irregular. For example, in 1893-94 potatoes sold for 90/- in Hobart, for 30/- in 1895-96, 100/- to 140/- in 1897-98, and for 25/- to 80/- in 1898-99. The irregularity was as pronounced in the following decade. In 1904 prices were 25/- to 45/-, but the following year potatoes sold for £6/10/- to £15.

The increase in potato growing between 1891 and 1914 occurred almost entirely along the North West Coast, where acreage rose from 12,242 in 1891 to 21,521 acres by 1914. Tasmania's total acreage rose from 20,133 to 30,811 acres in these years. Deloraine, the largest producer in other areas, had just under 2,400 acres in potatoes in 1891 but production stagnated in this district because of transport costs.

The really speculative crops, however, were turnips and swedes. These crops cost the farmer much less in initial labour and outlay than the potato crop. Potatoes had to be set by hand and planting potatoes was a three man job, with one man at the plough, another planting and a third following with manure. One man working on his own managed only an acre a day. Swedes and turnips, on the other hand, were sown as seed and needed only to be drilled
in after the ground was ploughed. If rain came there would be a bumper crop. If this coincided with a dry year on the mainland prices would soar and the Coastal farmer was flush, but usually they were fed to the cows. No loss was made and instead of a winter long fallow the land received a root rotation. After 1890 rotation was standard in the once timbered districts and figures for rotation were no longer collected.

One of the farmer's major problems after 1890 was the increasing incidence of crop diseases and pests, which also plagued other Australian and New Zealand farmers at this time. Overworked soils contributed to the susceptibility of crops. Diseases severely affected farm returns and controlling measures added to costs. The greatest threat to potato growers was Irish blight which, like all fungoid growths, occurred in humid seasons. Farmers experimented with pickled seed potatoes from the early 1890's but the problem increased after 1900. 1910-11 was a particularly bad year and thereafter Circular Head Redskins lost favour and Bismarks became the most widely grown potatoes. Before then there had been only a few Bismarks exported for the Adelaide market gardens. In dry weather the potato moth (lita solanella) appeared.

"Progressive" farmers protected their crops by selecting and grading their tubers, using only the best, and spraying the crop with Bordeaux or Burgundy mixture. (1)

(1) Annual Report, Agriculture and Stock Department, Agricultural Gazette 1911-12, p.2.
As these measures were expensive in money and labour, yields had to be good, and farmers began to plant a similar acreage each year and give it every care. The "old system" of speculative plantings of an acreage varying widely from year to year and trusting to luck for good yields and markets was gradually abandoned, although many farmers continued to plant as before. (1) The method depended largely on distance from the market or coastal jetties. Where the distance was too great the crop was highly speculative and could not carry increased capital investment.

Most highgrade potato districts were from three to twelve miles inland and with downhill carting were not served by railways. Yolla farmers could have used the railway to Burnie but because of the extra handling, timing and delay involved they continued to use the horse and cart. (2) The distance a team could make in a day was decisive. Deloraine could grow potatoes and the acreage increased considerably between 1870 and 1890 for local and domestic use. It did not increase thereafter because the distance to Devonport for the Sydney trade was too far for road haulage.

Seed for oats (hay) required careful selection also. There was a lot of "mixed" seed on the market which resul-

(1) Annual Report, Potato and Agriculture Inspector, Agricultural Gazette 1912-13, p.25.
(2) Mr. K. Dallas, interview.
ted in weed and uneven ripening. To obtain the best prices the farmer had to grade his grain. Weeds were conspicuous in all cereal crops in Tasmania at this time. In the northern districts continual cereal cropping and the lack of a proper fallow crop were major causes, but poor seed and the movement of the travelling thresher were also responsible. Travelling threshers tended to catch up weeds and spread them from farm to farm. (2)

In the late 1890's farmers on the North West Coast tried to form marketing associations (3) because they did not feel they obtained fair prices from local dealers. The Council of Agriculture claimed that they failed because merchants dominated the best markets and growers lacked the knowledge to develop new markets. (4) A major cause of friction between grower and merchant was the quality of the crop. To prevent disputes between buyer and seller, in 1910-11 produce merchants representative of the different districts fixed a standard for grain, pulse and hay crops. A standard sample was kept by all local merchants and was

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(1) Annual Report, Agriculture and Stock Department, Agricultural Gazette 1911-12, p.3.
(4) Ibid.
distributed to the Department of Agriculture and to the Chambers of Commerce on the mainland. Dissatisfied sellers could appeal for a small charge to the Agricultural Officer for arbitration. No standard was fixed for wheat. So little was exported that it was not felt necessary. (1)

Potato marketing also came under supervision. Imports of diseased potatoes caused concern in New Zealand and other Australian states and measures were taken to inspect potatoes either at the port of exit or entry. (2) All exports to New Zealand were inspected in Tasmania, and in seasons when Irish blight was prevalent a Potato Diseases Act was brought into operation by which all potatoes were inspected and where a diseased sample was found the load was sorted at the farmer's expense. (3)

By 1914 the phase of expansion in farming activity along the Coast had virtually ceased and maintaining the fertility of the soil had become a problem in these districts, too. In the north and south, however, this phase had been followed by a decline in the area cropped and a loss of population. This situation had not occurred on the North West Coast. A proper rotation was possible and profitable, and was further encouraged after 1892 by the development of dairying. Dairying also provided cash for the purchase of fertilizer which by 1914 was available at more reasonable prices than had been the case a few decades before. Prices were generally low, and crops required more intensive care, but returns were sufficiently profitable to enable investment in machinery on well established farms.

Farming was a way of life, and few sought a better one. On the northern plains, however, a few decades before the most flourishing agricultural region, the situation was very depressed.

(1) Annual Report, Agriculture and Stock Department, Agricultural Gazette 1911-12, p.4.
(2) Annual Report, Inspector of Imports and Exports, Agricultural Gazette 1911-12, p.16.
(3) Ibid.
Conclusion.

**Limited Land for Extensive Occupation.**

The physical limits to extensive occupation were reached early in the history of settlement in Tasmania, at a time when neighbouring colonies were expanding. Of all factors, this was the most significant for the development of farming in Tasmania. As a theme for a thesis it is a simple one, yet its significance has sometimes been overlooked.

As early as 1835 all easily cleared land was occupied as far back as natural cover permitted. This rapid development was due to the existence of a combination of factors: markets for wool and wheat, suitable, easily cleared land virtually free of charge, convict labour, and navigable rivers in north and south for the transport of agricultural goods. Two million acres were granted by 1832, when the system of grants was brought to an end, and although a further half million acres were sold and 1.3 million acres leased by 1849, evidence suggests that with minor exceptions this represented not extension of occupation, as S.H. Roberts and R.M. Hartwell concluded, but consolidation and formalization of tenure of land already occupied.

The mid-1830's were a turning point in Tasmania's economic and social development. It was the lack of fresh land for extensive occupation, not its cost due to the 1832 regulations as has been suggested, that accounted for emigration to Port Phillip after the mid-1830's. Tasmania ceased to be attractive to speculators and to land hungry small settlers. Capital and migrants by-passed Tasmania for the developing colonies.
The "Established" Districts.

i. Wheatgrowing.

The lack of fresh land to replace soil exhausted by continual cropping made cash cropping viable only on larger holdings where pasture could be brought into cultivation. This trend was hastened by the economic situation in the 1840's, which was not entirely due to external factors: the earlier inflated prices for land on the private market, declining pastures and wheatfields, the loss of capital, skill and labour, and inability to attract new capital and skill were factors directly related to the lack of fresh unforested land which contributed to the effects of the depression and slow recovery from it.

These factors handicapped Tasmanian farmers whose products competed on the Sydney wheat market and in Hobart stockyards against products raised extensively on virgin land. As a result, many less efficient producers were dislodged, as well as some who had purchased land at inflated prices and those bankrupted for their trading and banking interests. They were bought out, along with others departing for Port Phillip, by larger and well established neighbours. Farms therefore became fewer in number and larger in size during the 1840's, but in contrast with R.M. Hartwell's view, it was found that there was a concurrent shift in cash cropping from small scale farms where wheat represented the major source of income to farms where wool was the main crop and grain subsidiary. Farming generally was on the larger scale.

As a result of the shift in farm type, by 1850 the north eclipsed the south as the wheatgrowing centre.
Unlike the south, land suited to wheat was extensive on the northern plains, making casual "rotation" with pasture, larger acreages and the use of machinery both possible and profitable. Districts nearer Launceston became Tasmania's leading cash cropping districts, producing wheat for export.

In outlying districts land given over to extensive occupation was suitable for mixed farming, and once the pressure for land became acute roads across the plains were extended and improved, and holdings were broken up one by one into mixed farms, often for lease. However, these were Tasmania's best natural pastures, so it was not until after 1860 that the last of the great cattle runs was broken up and its pastures put down in sown grasses. In 1870, by the combination of wool, wheat, fatstock, and in some cases, stud, the north was the most prosperous region in Tasmania. The lack of historical studies concerning the north forced a rather more bareboned treatment of this phase than was felt its importance warranted. A study of development on the northern plains between, say, 1840 and 1880, with emphasis on the more sociological aspects of rural community and response to innovation and change would be most worthwhile.

In the more fully developed south land suited to cropping was limited and broken, and much of the terrain too hilly for the use of machinery, consequently the shift to the larger unit gave only limited respite. By 1840 all wheatland was fully exploited. Exports of southern wheat, chiefly the product of small and "middle" growers, ceased to be profitable during the 1840's with the appearance of cheaper and better milling (hard grained) wheats in Sydney, but the Commissariat's needs increased, and this provided larger growers with an expanding, guaranteed market. As alluvial soil was resilient
for a time and convict labour permitted reliance on manpower, production did not drop away until the end of transportation.

Farmers who could use machinery thereafter supplied the stagnant local market; other southern growers, heartened by the return of good wool prices and the development of colonial wool auctions, concentrated almost exclusively on wool or abandoned farming altogether. Southern Tasmania ceased to be important as a wheatgrowing region, and some millers near the port imported wheat for re-export as flour.

In view of the land and gold offering in other colonies, development in the north and in timbered regions could not offset the effects of stagnation in the south and in the purely pastural districts once fresh readily cleared land could not be had. Before the end of transportation emigration created a shortage of able bodied farm labourers, and between 1847 and 1870 there was a drop from 33,000 to about 22,000 in the number of men of productive years. With the after-effects of transportation, this resulted in a rise in the proportion of non-producers to a level even higher than in England and Wales by 1870. Families with young children were more typical of the north and of the pioneer districts. A relatively aging population was typical of the south and Midlands.

These changes must have had far reaching significance at the community level. An analysis of their effects would be of value to political, economic and social historians alike. In this study time did not permit more than an attempt to ascertain the broadest facts and draw attention to them. It was also felt that more light would be shed on factors affecting primary producers were more known about the changes which occurred
in trading organizations and their pattern of activity between 1840 and 1860, and this is suggested as another area requiring further investigation.

Contrary to R.M. Hartwell and some contemporary opinion, it was found that apparent deficiencies in farming method were in the main attributable not to any inadequacy in the farmer but to circumstance. Improvements had to be both practicable and paying - factors curtailing proper rotation, manuring and the use of machinery. However, as wheatgrowing became more typical of larger unit, a more sophisticated method was possible. The stripper could not be used because of moisture, and the cumbersome and costly method of using both reapers and thresher (some of which were steam powered by 1870) required large, flat acreages of well cleared land. Where these conditions were met and markets were within paying distance, cropping was sufficiently profitable to repay the investment. Improvements tended to be ongoing - the horses required for this machinery were used at the plough, which in turn permitted fallowing. In the 1850's and 1860's, too, through local initiative, limited quantities of phosphate guano were placed on the market, for which demand exceeded supply. Where cash cropping did not pay, however, the older system generally prevailed and wheat was harvested by hand.

Further improvement of farming methods followed the introduction in 1878 of the reaper and binder. This machine made harvesting more efficient and therefore steam threshing more practical. By its use of horses it also made more economic the use of machinery for preparing the soil.
then becoming available in cheaper and stronger models. At the same time, however, yields on the northern plains began to fall away, and the number of cereal producers dropped. Poor yields forced the families of many tenant farmers to shift westward to virgin forested land. Other young men were drawn off to the mines, the railways and the roads. As had occurred earlier in the south when crop acreages stagnated and yields declined, population stagnated and labour became scarce. This in turn encouraged some larger farmers who otherwise would have cropped to concentrate on wool.

Those who continued to crop were forced to fallow and use guano extensively, but these were expensive methods and soon proved too costly for profitable sale on export markets. Wheat exports ceased in the 1880's, and increasing quantities of imported wheat and flour appeared on urban markets. Cereal prices were even lower in the 1890's, but wool and livestock prices were also low and many pastures were in a poor state. Few farmers could then afford to abandon cropping, and feeling that there was nothing to be lost by overproduction, many intensified their efforts, making full use of machinery. However, the introduction of roller milling, which used imported hard grained wheat, and the extension of railways, which permitted this flour to undersell the local product in rural areas, cut even this market from beneath the farmer. After 1911 drought and rabbits aggravated the existing difficulties, and wheat production fell away.

ii. The Pastoral Industry.

Lack of fresh land for soaring sheep numbers resulted initially in overstocking and pasture damage. As low wool prices and financial recession
prevented remedial action during the 1840's, sheep numbers plummeted from 2.2 million in the early 1850's to 1.3 million by 1870, scab, fluke and rabbits contributing to loss in the 1860's. Decline was greatest in Merino country, where improved pasture could not be sown. Nevertheless, evidence suggests that purchase of land during these years was due more to capital accumulation by well established farmers than to insecurity of tenure resulting from ill considered land legislations, and certainly was not due to extension of grazing as S.H. Roberts has claimed. Pastoralists who survived the 1840's were mainly those who had acquired their land by grant before 1832. By the 1860's, with another decade or so of good prices behind them, their financial situation was generally sound.

The downward trend in sheep numbers was reversed after 1870 by the increase in the amount of land laid down in sown grasses in the mixed farming districts. This was partly due to trends in agriculture (see above), but was encouraged by improved prices for wool at colonial auctions and the swing in demand to longer staple wool. In response to this demand, Crossbreds became common in these districts by 1880. A further factor, however, was the success of the 1870 Scab Act, which enabled Tasmanian Merino studs to dominate Melbourne and Sydney sales. As a result of these developments pastoral land tripled in value between 1872 and 1881, although there was little change in the value of agricultural land, and the number of farmers making livestock returns only rose from 800 to nearly 1,500 as many mixed farmers abandoned cropping.
The success of the Scab Act, in contrast with other Acts to control pests and diseases, was due to the fact that it was not under the control of local bodies but was administered by a dedicated and influential individual equipped with adequate means of enforcement. It therefore did not founder on the rock of social relations as did other attempts.

By the mid-1880's, however, when wool prices were again low, the preservation of pastures was a more pressing problem than ever before. The Rabbit Trusts were totally ineffective, and soil had become depleted in natural minerals, especially phosphates and lime. The cost of "farming" pastures, however, was prohibitive until zinc was refined in Australia. As a result sheep numbers stagnated and imported stock once more monopolized southern slaughteryards, and for the first time importers usurped northern sales.

The ruin of Tasmania's studs after 1902, caused by breeding to a type which could not withstand drought, added to the prevailing gloom. This may be attributed to misjudgement, always a risk for those in the van, but there was little demand for the few pure Merino studs remaining, because Peppins were now in favour. Pastoralists recouped as best they could. Some developed Comeback flocks, whose wool they presented at Hobart auctions (important after 1901 following the building of a deep water port), while on a few holdings Polworth and Corriedale flocks could be found by 1914.
11. Farming in the Forested ("Pioneer") Districts.

Clearing forested land was a natural step following the occupation of the grassland, and was made more practicable after 1841 by the use of ringbarking. It was too costly to profit the capitalist, and in contrast with the larger holdings employing first convict and then hired labour in the established districts, the working man's small farm on which the family provided most of the labour was typical of these regions. It was an alternative to emigration for those unwilling to work for wages in established districts, and although it offered little chance of early profits, it provided a subsistence, an independent way of life, and hope for the future.

Most bush farmers lacked capital, and in all timbered regions an external source provided early settlers with cash. Along the North West Coast and the Huon River in the south east it was timber, and in the later developing inland north east it was money earned on the tinfields and roads. Such assistance may perhaps be seen as a parallel to the free grants and convict labour aiding early settlers in the established districts, and enabled early farmers to clear their land and produce their first crops without becoming heavily in debt. In each timbered region some subsistence farming preceded the companion industry, for the land's agricultural potential was recognized, but agriculture to some extent grew out of the companion's activity, and its initial survival was largely dependent upon it.

The transition from subsistence farming to commercial agriculture along the North West Coast was made possible by the stimulus to
mainland markets resulting from the goldrushes. Numerous new farms sprang up, facilitated by land regulations favourable to small settlers. These were the only land regulations in the period under study found to have very significant effects, but along the Coast good rainfall, virgin basalt soils, water transport and close markets offered, and the regulations worked with the tide of development, giving it added impetus. Basalt soils were ideal for potatoes but a variety of crops were marketable, and by 1870 a rotation of grain or grass following a potato crop was common. In other regions, however, where the sum of these advantages was lacking, the regulations had limited effect and farming remained at subsistence level.

The development of local markets for the hitherto outward focused Coastal farmers, and the transition from subsistence to commercial farming in the inland north east and Deloraine district was brought about by mining activities after 1876 and the road and railway construction that mining necessitated or facilitated. Turning the net loss from migration to a net gain (there was a 25,000 increase in male population between 1870 and 1891, in contrast with the 5,000 gain between 1847 and 1870), these activities created a larger non-farming population to feed and a much stronger market for horses, bullocks and fodder crops.

Because of increased demand and the clearing of more land, livestock became an important item on bush farms after 1870. Clearing was casual, as expansion was as rapid as resources permitted and good farm labour hard to get. The general untidyness of farming methods did not necessarily indicate inefficiency, and improvement came with time and increased profitability. Hand
harvesting was still common by 1890, for most farms were too small, ill-cleared or hilly for the use of machinery. In the Huon, where agriculture benefitted little from the new economic developments, cropping tended to be of subsistence nature and development stemmed from timber milling and orcharding.

The close association of farming with companion industries (in which the local storekeeper had a part) suggests that cross-community studies concerning this period of development would be most valuable, should such studies be feasible. A deeper knowledge of the internal organization of the various communities and their articulation with the outside world would add other dimensions, but time did not permit any attempt in this direction in the present study.

The economics of distance limited the amount of land which could be farmed profitably, and after 1890 expansion virtually ceased. The fertility of the soil became a problem, and there was a trend to larger farms, a greater degree of mechanization (partly due to better clearing), and the widespread use of fertilizer. Other features characterizing this period were the development of dairying and greater diversification that dairying made possible, the practice of planting the same acreage of the various crops each year with more intensive care, and the beginning of market supervision.

Dairying followed the proliferation of butter factories after 1892, which owed much to the efforts of the Council of Agriculture.
Creameries were set up in outlying districts, making farming more viable on marginal land. Dairying provided regular monthly payments, enabled a more flexible farming pattern (cereals, roots, pulse, pastures, pigs and poultry all combined well with dairying) and made the farmer less dependent on returns for any one crop.

Despite a large increase in hay due to dairying, low wheat prices, and the needs of horses and bullocks used for cartage and hauling, potatoes remained Coastal farmers' most important cash crop, although low prices, lack of fresh land, and pests and diseases (then common throughout Australia and New Zealand) forced intensified care rather than increased acreage. To some extent the closer attention given cash crops was enforced by the standards fixed by merchants in 1910/11 for grain, pulse and hay, and to the market supervision developed by State governments to prevent the export or import of diseased crops.

The changes which occurred in the pattern of farming after 1850 with the development of farming and timbered regions and the decline in wheatgrowing in "established" districts may be illustrated by the values accredited the various crops for the 1912/13 season. Hay, valued at $549,000, was the largest single crop and exceeded others in value. Hay and straw were largely oaten, and as the oat crop was valued at $263,000 and straw at $85,000, the importance of this one crop is readily apparent. Wool was valued at $509,000, potatoes at $435,000, apples at $316,000, and wheat at $116,000.

Although land resources became as fully utilized as circumstances permitted after 1890,
and a trend to larger farms accompanied the rapid diminution of soil fertility, as had earlier occurred in the "established" districts, the development of dairy farming and the fact that farms were based on the family unit rather than being enterprises employing hired labour, stayed any immediate effect on population. Population along the Coast and in the Deloraine district rose from 18,000 in 1881 to 34,100 in 1901, and to 41,400 by 1911. There was little increase in population in the north east after the 1901 census, but this reflected the fortunes of mining rather than farming, for the construction of the railway from Launceston to Scottsdale permitted commercial cropping to persist after alluvial tin was worked out and much of the mining population left, and dairying aided its survival.
III. **Orcharding.**

Three factors led to the development of commercial orcharding in the late 1860's: a growing demand for fruit on the mainland after the goldrushes, the devastation of northern domestic orchards by the codlin moth, and the existence of a group of farmers able to act as innovators. These farmers, who also experimented with hops, possessed capital accumulated over years of mixed farming on the larger scale, knowledge derived from their English background (notably in Kent) and supplemented by acquaintance with recent orcharding (and hopgrowing) techniques acquired on home visits, and holdings in a district (New Norfolk) well suited to this form of activity and served by water transport.

Bush farmers struggling to survive in the Huon and those acquiring holdings along the D'Entrecasteaux Channel followed their example, as did established farmers along the Derwent and near the railway line constructed in the lower Midlands. Orchards on bush farms were generally smaller and more closely planted than those on established farms, and, being the main source of income, occupied the best land, until experience proved that they thrived better on the poorer soil of the relatively steep slopes behind the richer river flats. Quick cash crops of soft fruit, together with paling splitting and wages from the timber mills, provided bush farmers with cash until orchards came into bearing.

Although the inter-colonial trade suffered a set-back in the mid-1880's due to tariffs on imported fruit and fruit manufactures, (as occurred
with hops in 1871), the effect was offset by the development of overseas markets for apples made possible by the use of steamers with refrigerated holds on the London run. When the Act of Federation removed inter-colonial tariffs the prospects for fruitgrowers and manufacturers of jam, pulp, etc. and dried fruit appeared even rosier, and a speculative orchard boom occurred in both the north and south in which the government itself was involved by making orchard promotion central to immigration policy and through the activities of the Fruit Inspector.

Due to low prices on colonial markets and high freight costs in the overseas trade, profit margins were small, and by trial and error and by drawing on scientific information made available by the Government Entomologist, orchardists steadily improved techniques to ensure maximum production and standardized presentation. By 1914 fruit growing had advanced far beyond the farm and kitchen orchard production of 1870. Being the sole agricultural product with expanding overseas markets, by 1914 it was the best organized branch of agriculture in the State.

It was the organizational aspect that emerged as the most interesting for further study. Throughout this study, but especially in the later period, one is brought back to problems of social relationships. These issues were common to all branches of farming, but were most prominent in orcharding as this was a rapidly developing industry important to the economy as an export
earner and settler attraction, and it required a high degree of organization and innovation at all levels to be successful. More work needs to be done on the activities of prominent fruit exporting and jam manufacturing firms and, on their relations with growers; on why producers adopted some practises but not other practises to their own advantage, and on the social network within which producers organized themselves to attain specific ends, such as achieving a reduction of freight charges. Such a study would involve the response of orchardists, or perhaps more broadly, the response of farmers to innovation and authority, and would considerably augment our knowledge of the structure and values of Tasmanian society and of their changes. A smaller study of the relations between the Council and the Department of Agriculture, and of the attitudes of growers to each might prove a useful lead into the larger theme.
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