



COMMONWEALTH



OF AUSTRALIA

DEPARTMENT OF  
COMMERCE AND  
AGRICULTURE

# THE TASMANIAN APPLE AND PEAR INDUSTRY



A map of Australia is shown, with the text "BUREAU OF AGRICULTURAL ECONOMICS" printed inside it. The map is set against a background of a horizontal band with a grainy, textured pattern.

BUREAU OF  
AGRICULTURAL  
ECONOMICS



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AGRICULTURE

# THE TASMANIAN APPLE AND PEAR INDUSTRY

Editor: L. G. ASHTON.



BUREAU OF  
AGRICULTURAL  
ECONOMICS

## FOREWORD

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*This is the sixth of a series of Bulletins being prepared by the Commonwealth Bureau of Agricultural Economics dealing with economic aspects of the Australian primary industries.*

*This Bulletin presents an analysis of the information obtained by field officers who visited every commercial apple and pear orchard in Tasmania during November and December, 1948, and obtained from orchardists and by personal examination details of the physical condition of the orchard, its organization and production.*

*The Bulletin is largely based on the work of Mr. L. White, B.A., Senior Research Officer in the Horticultural Section of the Bureau of Agricultural Economics, who directed the investigation and drafted the report. Mr. A. G. Bollen, D.D.A., carried out much of the tabulation. The Bureau is indebted to the Australian Apple and Pear Marketing Board for its co-operation in this survey; to the Tasmanian Department of Agriculture for assistance; and to the field officers, who took great care in carrying out their task.*

J. G. CRAWFORD,

Director,

Bureau of Agricultural Economics.

CANBERRA, A.C.T., February, 1950.

# THE TASMANIAN APPLE AND PEAR INDUSTRY

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# TASMANIA

## APPLE & PEAR GROWING AREAS

### APPLE & PEAR GROWING REGIONS & MUNICIPALITIES

REGION No1  
Wynyard  
Kentish  
Devonport  
Latrobe

A  
B  
C  
D

REGION No2  
Deloraine  
Longford  
Westbury  
Beaconsfield  
George Town  
Lilydale  
Scottsdale

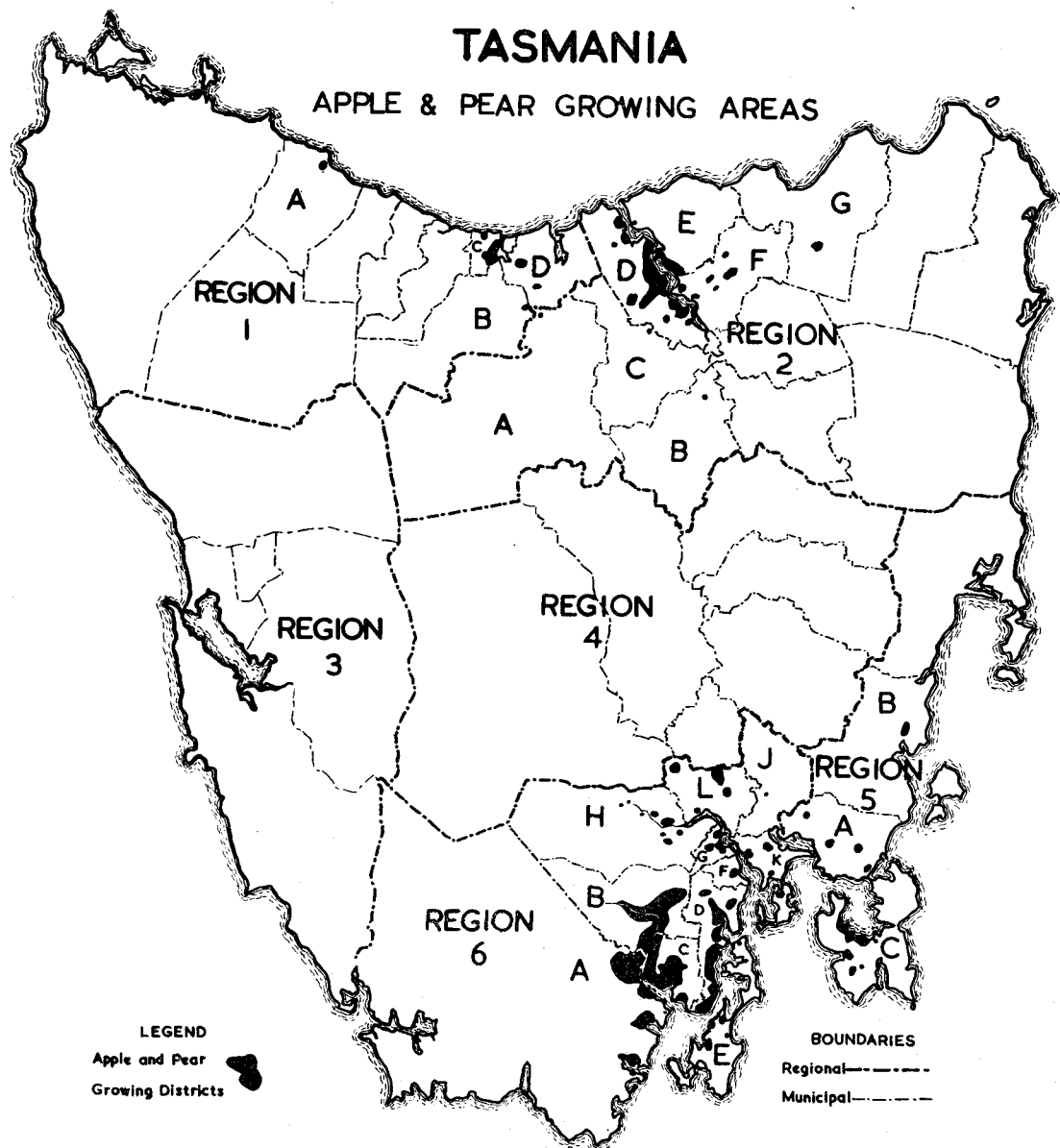
A  
B  
C  
D  
E  
F  
G

REGION No5  
Sorell  
Spring Bay  
Tasman

A  
B  
C

REGION No6  
Esperance  
Huon  
Cygnet  
Kingborough  
Bruny  
Hobart  
Glenorchy  
New Norfolk  
Richmond  
Clarence  
Brighton

A  
B  
C  
D  
E  
F  
G  
H  
J  
K  
L



DRAWN BY B.L.C. B.A.E. AUG. 1949

# THE TASMANIAN APPLE AND PEAR INDUSTRY

**D**URING November and December, 1948, the Bureau of Agricultural Economics, in co-operation with the Australian Apple and Pear Marketing Board, made a survey of all orchards in Tasmania which contained two acres or more of apples or pears.

Each of these orchards was visited by a field officer, who, in collaboration with the orchardist, completed a form showing the number, age and health of present trees; the number it was intended to remove or rework; the number of trees the orchardist intended to plant between 1949 and 1956; the importance of apples and pears in the economy of each orchard, and the labour supply, spacing of trees, and the type of spray equipment used.

In addition, the field officers were required to give an estimate of the suitability of the location of the orchard and the efficiency of its working.

Most of the officers had a knowledge of the orchards they surveyed, as they had been visiting them for several years as assessors under the Apple and Pear Acquisition Scheme.

Crop assessments under this scheme from 1943 to 1948 were obtained from the Apple and Pear Marketing Board, and noted on the forms. The information obtained from the survey has been analysed by the Bureau of Agricultural Economics, and the results are set out and discussed in this Bulletin.

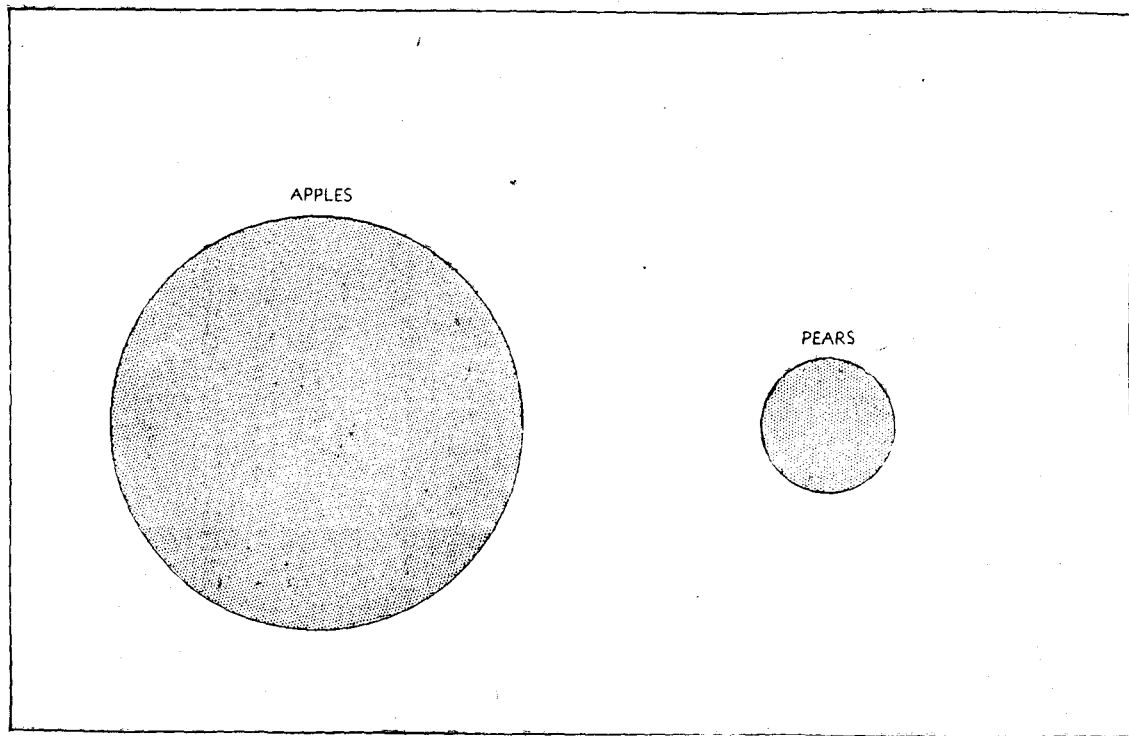
## PART I.

### CONDITION OF TASMANIAN ORCHARDS

The most striking feature of apple and pear orchards in Tasmania is the fact that they are concentrated in small areas. The main plantings are in the Huon, Derwent and Tamar Valleys and the Channel District, with smaller plantings on the East Coast and in the North-west.

The total area of apple and pear orchards containing two or more acres in 1948 was approximately 20,500 acres, or 32 square miles of the 26,215 square miles in Tasmania. This area is, of course, intensively cultivated, with 160 or 170 apple trees to the acre, with a few orchards having up to 300 trees per acre. The distribution of the areas may be seen from the map on page ix.

I. RELATIVE PROPORTIONS OF APPLE AND PEAR TREES: TASMANIA, 1948.





**1. NUMBER AND TYPES OF ORCHARDS.**

There were 1921 apple and pear orchards in Tasmania with 2 acres or more of apples or pears of which 1481 are in Region 6 and 69 in Region 5, both in the south, and 260 in Region 2 and 111 in Region 1, both in the north. Of these, 1,260 grow apples and pears only. The number of apple and pear orchards, by Regions, is shown in Table No. 1 on page 33. On the remaining 661 orchards, which had production in addition to apples and pears, 391 produced small fruits, 170 stone fruits, 124 agricultural crops, 88 dairy products, 34 poultry and eggs, and 13 produced hops.

Apples and pears were the most important products on these mixed holdings, as they were the chief source of income on 468 out of the 661 holdings, and the second most important on a further 164. The most important crop grown in conjunction with apples and pears was small fruits, with first place on 102 holdings, followed by agricultural crops on 30, stone fruits on 19, dairy products on 19, hops on 12 and poultry and eggs on 4. The relative importance on apples and pears on holdings which have other production is shown in Table No. 2 on page 34.

It should be noted that only those farms which grow apples and pears commercially were covered by this survey, so that those producing small fruits or the other products mentioned were included in the survey only if they also grew apples and pears. There are approximately nine times as many apple as pear trees in Tasmania as shown in Graph I on page 2.

**2. SIZE OF ORCHARDS.**

On a 10% random sample drawn from the complete list of schedules compiled in the survey, more than 70% were of less than 12 acres, while more than 90% were of less than 21 acres. There was a comparatively large number of small holdings, as 10% of the orchards had less than three acres of apples and pears. The majority of these probably contained other products from which the main income was obtained.

There were also a few large orchards, as 3% of the orchards were of more than 30 acres and 1% of more than 60 acres.

Both the large and the small orchards were fairly well distributed among the four regions.

The most common orchard in Tasmania was the one containing three acres to six acres of apples and pears, these being about 27% of the total. The next most common size in descending order was six acres to nine acres, comprising 18% of the total, followed by nine acres to 12 acres, 12 acres to 15 acres and less than three acres.

#### 4 THE TASMANIAN APPLE AND PEAR INDUSTRY

In Region 6, which contained more than 70% of all apple and pear trees in Tasmania, almost 30% of the orchards were in the group three acres to six acres of apples and pears.

The size of orchards in this sample was as shown in the following table:

No. of trees	Under 500	500 to 1,000	1,000 to 1,500	1,500 to 2,000	2,000 to 2,500	2,500 to 3,000	3,000 to 3,500
Acres	Under 3	3-6	6-9	9-12	12-15	15-18	18-21
	%	%	%	%	%	%	%
Region 1	.. 25	25	42	8	..	..	..
Region 2	.. ..	23	19	19	27	4	..
Region 5	.. 11	11	..	34	11	11	..
Region 6	.. 11	29	17	16	10	4	5
Total	.. 10.5	27.0	18.0	16.0	12.5	4.5	4.0

No. of trees	3,500 to 4,000	4,000 to 4,500	4,500 to 5,000	5,000 to 10,000	Over 10,000	Orchards in sample.
Acres	21-24	24-27	27-30	30-60	Over 60	
	%	%	%	%	%	
Region 1	.. ..	..	..	..	..	12
Region 2	.. 4	..	..	..	4	26
Region 5	.. ..	11	..	..	11	9
Region 6	.. 2	2	1	3	..	153
Total ..	.. 2.0	2.0	0.5	2.0	1.0	200

#### 3. PLANTING SYSTEMS.

Almost all orchards are planted on the square, there being 1,814 planted on this system, 69 on the triangular system and 22 in which both systems were used. Details of the distribution of the different systems are illustrated in Table No. 3 on page 35.

#### 4. SPRAYING EQUIPMENT.

The mobile power-driven pump is still the most important form of spray equipment, as there are 867 orchardists with these, compared with 789 having stationary power-driven pumps, 176 with hand pumps, and 13 who use both mobile and stationary power-driven pumps. It may be noted that there is a big preponderance of stationary power-driven pumps in the Huon Valley area. Distribution of spraying equipment, by types, is illustrated in Table No. 4 on page 36.

#### 5. LABOUR AND EMPLOYMENT.

Family labour is the most important source of full-time labour for the orchards, there being 1,826 members of orchardists' own families occupied full time, but only 856 full-time employees. Moreover, there were 965 members of the orchardists' families working part-time, as well as 61 children, although it is probable that a greater number of children work for short periods. Table No. 5 on pages 37 and 38 provides an analysis of employment on Tasmanian orchards.

In addition to the 856 full-time employees, there were 516 part-time employees engaged for an average of 5.4 weeks in pruning, 439 for an average of 3.2 weeks in spraying, and 1,881 for an average of 11.3 weeks in harvesting. It is probable that the majority of those employed for pruning and spraying are also employed for harvesting, so that the total number of part-time workers required is about 2,000, or an average of one per orchard.

The greatest amount of employment was given in the Huon Valley, where about 60% of both the full-time and part-time employees in Tasmanian apple and pear orchards were found. The other important areas for employment were the Channel District, Beaconsfield, New Norfolk, Tasman, George Town and Devonport.

#### 6. EFFICIENCY OF ORCHARDS.

Field officers who made the survey were instructed to report on the suitability of the location of each orchard, the efficiency of its working, the health of the trees, and the orchard's productivity compared with a normal, well-worked, healthy orchard in that district. It was realized that there is no objective standard that can be used in making these judgments, and that different standards might be applied by different officers, or even by the same officer to different orchards. To minimize the use of differing standards, a meeting of all officers was held and the grounds on which judgments would be made were thoroughly discussed.

It was found that the location of 1,380 orchards was suitable for the production of apples and pears, the location of 454 only fair, and that of 49 was bad. In the judgment of the field officers, the management of 73% of the orchards was good, of 19% fair, and of 6% bad. Only 65% of orchards were showing the productivity that could be expected from well-managed, healthy orchards, whereas 20% were fair and 7% bad. As might be expected from the concentration of orchards, the best are in the Huon Valley, where 80% are producing satisfactorily. The relative efficiency of orchards is shown in Table No. 6 on pages 39 and 40.

## THE TASMANIAN APPLE AND PEAR INDUSTRY

The Districts in Northern Tasmania have both the highest proportion of trees over 30 years of age, and the lowest ratio of young trees. In the Tamar Valley, 83% of the trees are more than 30 years of age and only 3% are non-bearing, whereas in the Huon 47% are more than 30 years old and 4½% non-bearing. The greatest number of trees recently planted has been in the Huon Valley, and it is apparent that the present heavy concentration of production in this area will increase.

### 13. COMPARISON OF REGIONS.

The Map on page ix shows that Tasmania has been divided into six Regions, which have been accepted by the Commonwealth and the State as natural economic areas. These Regions have been used throughout this study. In some cases, however, it has been found preferable to refer both to the municipalities within the Regions and to small groupings of these municipalities, referred to in this Bulletin as districts.

Region No. 6, for example, contains three clearly defined districts, namely Huon Valley (containing the municipalities of Huon, Esperance and Cygnet; Derwent (Hobart, Glenorchy, New Norfolk, Clarence, Brighton and Richmond) and Channel (Kingborough and Bruny).

Following is a complete list of the Regions, districts and municipalities in Tasmania in which apples and pears are grown:

Region.	District.	Municipality.
1.	North-west ..	Wynyard, Kentish, Devonport, Latrobe.
2.	Tamar Valley ..	Beaconsfield, George Town, Lilydale, Deloraine, Longford, Westbury, Scottsdale.
5.	East Coast ..	Tasman, Spring Bay, Sorell.
6.	Huon Valley ..	Huon, Esperance, Cygnet
	Channel ..	Kingborough, Bruny.
	Derwent ..	Hobart, Glenorchy, New Norfolk, Richmond, Clarence, Brighton.

There is evidence that No. 1 Region is declining in importance as an apple growing centre. No plantings of several main varieties—Sturmer, Democrat, Cleopatra or Scarlet—and only small plantings of the remaining main varieties have been made in the past seven years and there is a big proportion of trees in the “over 30” age group. The Region contains about 5% of the total apple trees in Tasmania.

Region No. 2, likewise, has a smaller proportion of trees in the young age groups and a larger proportion in the over 30 group than the Regions in Southern Tasmania. It is apparent that Northern Tasmania has not fulfilled its early promise as an apple producing area and that the preponderance of Southern Tasmania is increasing. About 15% of the State's apple trees are in Region No. 2.

Region No. 5 contains about 4% of the State total. The smallest proportion of old trees is found in this Region.

Almost 76% of all apple trees are in No. 6 Region, including 27% of the State total in Huon, 17% in Cygnet, 13% in Esperance, and 12% in Kingborough. The highest proportion of trees under 16 years old is found in Kingborough, where, however, the health of all trees is much below the average.

Distribution of apple trees by Regions is shown in Table No. 13 on page 47. Distribution by Districts is shown in Graph IV on page 13.

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Region No. 2, likewise, has a smaller proportion of trees in the young age groups and a larger proportion in the over 30 group than the Regions in Southern Tasmania. It is apparent that Northern Tasmania has not fulfilled its early promise as an apple producing area and that the preponderance of Southern Tasmania is increasing. About 15% of the State's apple trees are in Region No. 2.

Region No. 5 contains about 4% of the State total. The smallest proportion of old trees is found in this Region.

Almost 76% of all apple trees are in No. 6 Region, including 27% of the State total in Huon, 17% in Cygnet, 13% in Esperance, and 12% in Kingborough. The highest proportion of trees under 16 years old is found in Kingborough, where, however, the health of all trees is much below the average.

Distribution of apple trees by Regions is shown in Table No. 13 on page 47. Distribution by Districts is shown in Graph IV on page 13.

Thus, it is probable that the number of bearing trees (i.e., those between eight years and 45 years), will have decreased by 37% between the time of the survey in 1948, and 1963.

#### **10. PLANTINGS NECESSARY TO MAINTAIN PRESENT POSITION IN 1963.**

It cannot be taken for granted that it is desirable to retain the present number of bearing trees; but, if it is, plantings for 1949 to 1955 inclusive should be at the rate of about 180,000 trees a year to provide bearing trees to replace those which will cease commercially profitable bearing by 1963.

If the same number of bearing trees in 1958 as in 1948 is desirable it would be necessary to plant at the rate of 263,000 trees for the three years 1949 to 1951 inclusive.

Over a full period of 45 years, however, the present total number of bearing trees would be replaced if 62,000 trees were planted each year.

It was not possible to maintain the necessary rate of planting during the war years, but it is probable that the need for heavy planting has not been recognized. The heaviest plantings in Tasmanian orchards were made during the 1920's. Therefore, the majority of growers have had no experience of the decline in production that takes place in many apple trees over 30 years old unless they are well cared for. Considerably more than 50% of the apple trees in Tasmania are either in their best bearing years, or have recently passed that stage, so that most growers have had little experience of old trees.

#### **11. FLUCTUATIONS IN YIELDS AND MARKET PROSPECTS.**

Before deciding on a planting policy, it will be necessary to survey the potential market and also to take account of variations in yield from present plantings.

Although the survey was completed before the 1949 low crop of about 2,500,000 bushels, there is evidence of fluctuations in yields over a long period, because a heavy setting of fruit in one year lowers the capacity of the tree to set blossoms in the following year. As a consequence of a low yield, such as 2,500,000 bushels, the following crop could rise to 7,000,000 or 8,000,000 bushels, if the season were favorable. Later crops might then see-saw, with diminishing intensity, until a normal crop of about 5,000,000 bushels is reached. Thereafter, another series of fluctuating yields might begin.

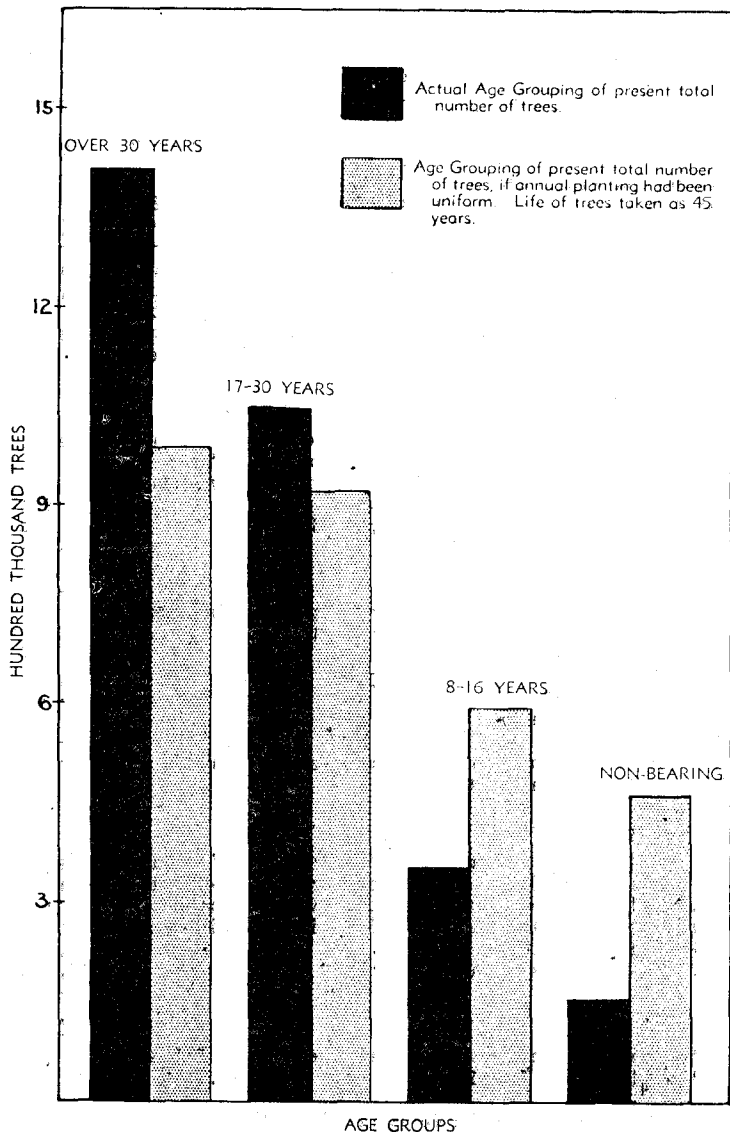
Before 1939, it was usual for about 1,000,000 bushels of apples to be unsaleable in years of heavy production in Tasmania and on the mainland, and the market outlook is still as uncertain as it was in those years. Planting policy should, therefore, be considered in the light of market prospects, as well as the present ages of the trees.

#### **12. DISTRIBUTION OF APPLE TREES.**

Three-quarters of the apples in Tasmania are in No. 6 Region, which includes the municipalities of Huon, Cygnet, Esperance, Kingborough, New Norfolk, Glenorchy and Clarence.

If the State is divided according to the natural geographical districts in which apples are grown, easily the most important is the Huon Valley, which contains 57% of the apple trees in Tasmania. The Tamar Valley is next in importance with 15%, followed by the Channel District, 13%, Derwent (both in No. 6 Region), 6%, North-west (No. 1 Region), 5% and East Coast (No. 5 Region) 4%.

## III. APPLE TREES: AGE GROUPS: TASMANIA, 1948.



## THE TASMANIAN APPLE AND PEAR INDUSTRY

9

### 7. COMPARISON OF PRESENT AGE GROUPING WITH UNIFORM PLANTING.

If plantings had been carried out evenly over the last 45 years, the age grouping of trees would compare with present actual grouping as follows:

	Number of trees.			
	Non-bearing.	8-16 years.	17-30 years.	Over 30 years.
Present age grouping of trees .. ..	151,100 (5.1%)	351,648 (11.9%)	1,048,704 (35.4%)	1,409,679 (47.6%)
Age grouping with uniform planting .. ..	460,620 (15.5%)	592,226 (20%)	921,240 (31.1%)	987,045 (33.4%)

The present concentration of trees in the older age groups means that a large number of trees will soon cease to be commercially profitable, and an abnormally heavy planting policy is required in the next few years, if it is desired to replace them. Graph III on page 10 compares the actual and the desirable proportion of trees in the different age groups.

### 8. PROBABLE DECLINE BY 1956.

Assuming that apple trees become commercially unprofitable at 45 years of age, and that the age distribution in the "over 30 years" group is uniform, bearing trees may decline as follows by 1956:

Bearing trees during 1948 .. ..	2,810,000
Less trees over 45 years old by 1956 .. ..	752,000
	<u>2,058,000</u>

Plus new plantings and reworked trees during 1941-48, which will all be bearing by 1956 .. ..	<u>151,000</u>
---	----------------

Total bearing trees under 45 years by 1956 .. ..	<u>2,209,000</u>
--	------------------

Decrease in bearing trees by 1956 .. ..	<u>601,000</u>
---	----------------

On the given assumptions, bearing trees in Tasmania will decrease by 21% between 1948 and 1956.

### 9. PROBABLE POSITION IN 1963.

In 1963, when all the trees in the "over 30 years" group will, using the same assumptions, have ceased commercially profitable bearing, and assuming that future annual plantings will approximate the estimated 1948 number of 30,000 trees, the position in 1963 will be as follows:

Bearing trees during 1948 .. ..	2,810,000
Less trees over 45 years old by 1963 .. ..	1,410,000
	<u>1,400,000</u>

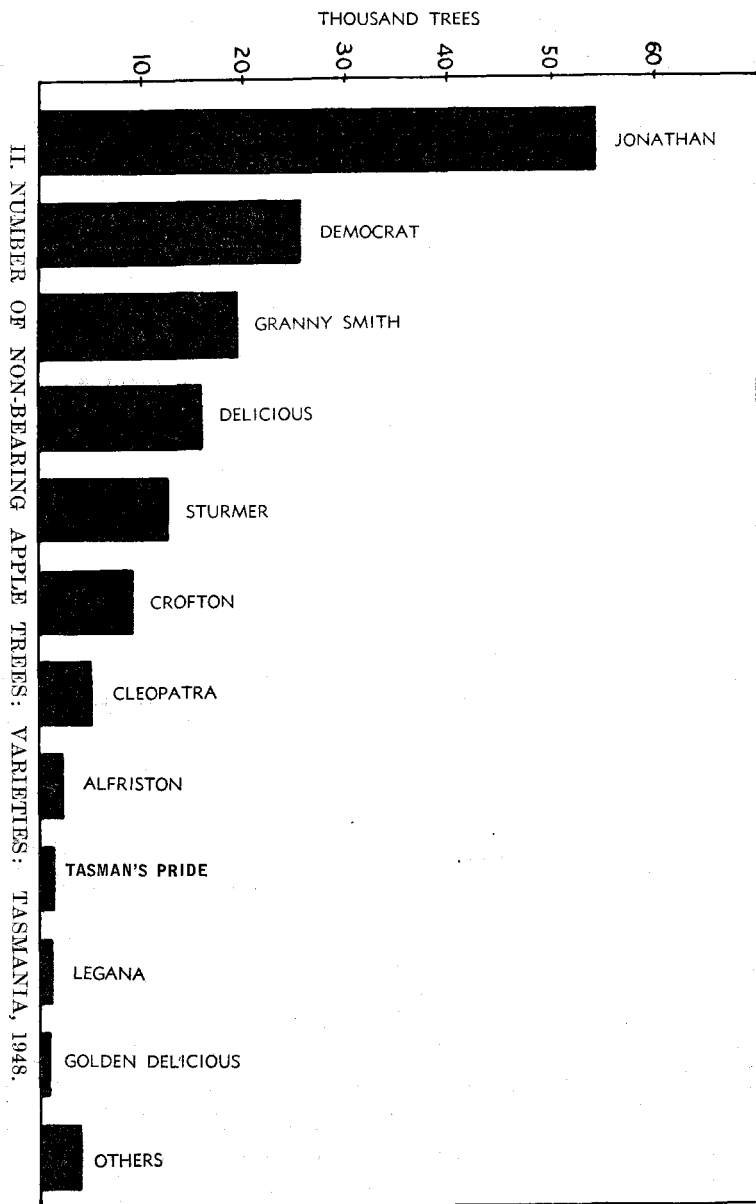
Plus new plantings and reworked trees during 1941-48 ..	151,000
Plus plantings 1949-55 at same rate as 1948 .. ..	<u>210,000</u>

Total bearing trees under 45 years old in 1963 .. ..	<u>1,761,000</u>
--	------------------

Decrease in bearing trees .. ..	<u>1,049,000</u>
---------------------------------	------------------



## THE TASMANIAN APPLE AND PEAR INDUSTRY



#### 4. SPRAYING EQUIPMENT.

The mobile power-driven pump is still the most important form of spray equipment, as there are 867 orchardists with these, compared with 789 having stationary power-driven pumps, 176 with hand pumps, and 13 who use both mobile and stationary power-driven pumps. It may be noted that there is a big preponderance of stationary power-driven pumps in the Huon Valley area. Distribution of spraying equipment, by types, is illustrated in Table No. 4 on page 36.

#### 5. LABOUR AND EMPLOYMENT.

Family labour is the most important source of full-time labour for the orchards, there being 1,826 members of orchardists' own families occupied full time, but only 856 full-time employees. Moreover, there were 965 members of the orchardists' families working part-time, as well as 61 children, although it is probable that a greater number of children work for short periods. Table No. 5 on pages 37 and 38 provides an analysis of employment on Tasmanian orchards.

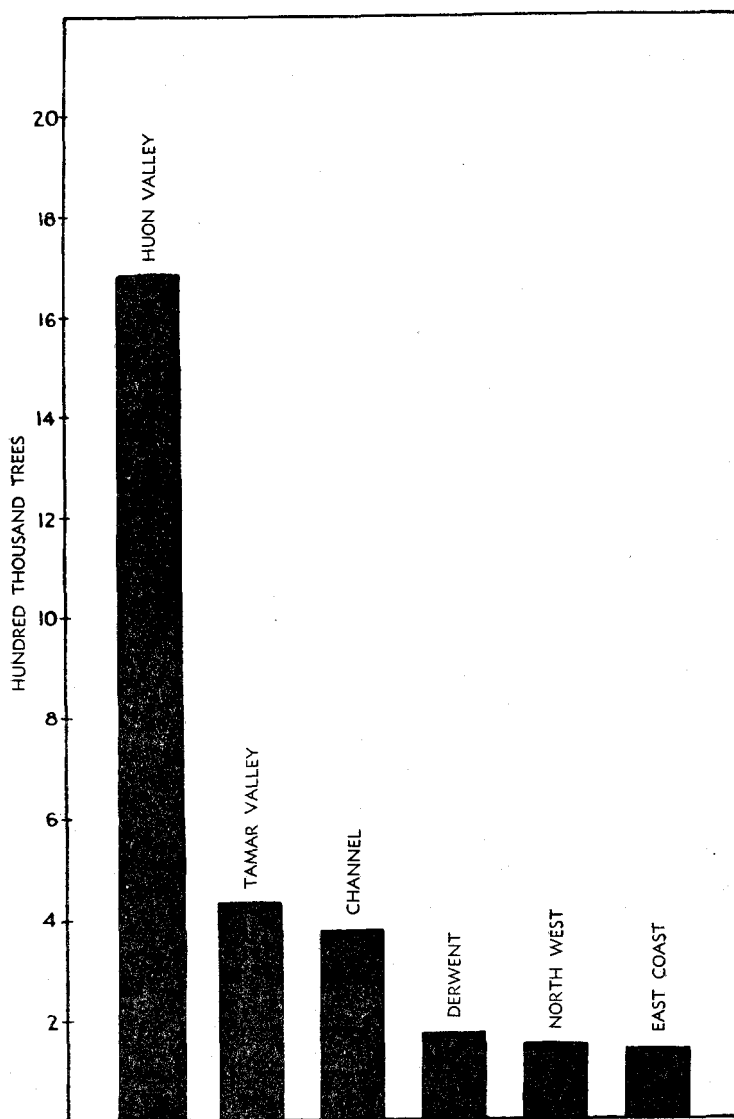
In addition to the 856 full-time employees, there were 516 part-time employees engaged for an average of 5.4 weeks in pruning, 439 for an average of 3.2 weeks in spraying, and 1,881 for an average of 11.3 weeks in harvesting. It is probable that the majority of those employed for pruning and spraying are also employed for harvesting, so that the total number of part-time workers required is about 2,000, or an average of one per orchard.

The greatest amount of employment was given in the Huon Valley, where about 60% of both the full-time and part-time employees in Tasmanian apple and pear orchards were found. The other important areas for employment were the Channel District, Beaconsfield, New Norfolk, Tasman, George Town and Devonport.

#### 6. EFFICIENCY OF ORCHARDS.

Field officers who made the survey were instructed to report on the suitability of the location of each orchard, the efficiency of its working, the health of the trees, and the orchard's productivity compared with a normal, well-worked, healthy orchard in that district. It was realized that there is no objective standard that can be used in making these judgments, and that different standards might be applied by different officers, or even by the same officer to different orchards. To minimize the use of differing standards, a meeting of all officers was held and the grounds on which judgments would be made were thoroughly discussed.

It was found that the location of 1,380 orchards was suitable for the production of apples and pears, the location of 454 only fair, and that of 49 was bad. In the judgment of the field officers, the management of 73% of the orchards was good, of 19% fair, and of 6% bad. Only 65% of orchards were showing the productivity that could be expected from well-managed, healthy orchards, whereas 20% were fair and 7% bad. As might be expected from the concentration of orchards, the best are in the Huon Valley, where 80% are producing satisfactorily. The relative efficiency of orchards is shown in Table No. 6 on pages 39 and 40.

IV. DISTRIBUTION OF APPLE TREES: DISTRICTS:  
TASMANIA, 1948.

## 14. APPLE VARIETIES GROWN.

It is generally considered that too many varieties of apples are grown in Tasmania. Although this is probably true, there is a heavy preponderance of a few varieties. It may be said that there are 24 main commercial varieties and a number of others which, however, comprise only 1.6% of the total.

Of the 24 varieties, three comprise almost 50% of the trees, and 12 varieties include more than 90%. Sturmer and Jonathan are easily the most important, as each comprises about 18% of the total trees and is grown in more than 90% of all orchards. The next most important varieties are Democrat, Granny Smith, Cleopatra, Delicious, Scarlet, Crofton, and Cox's Orange Pippin, each of which is grown in 50% or more of the orchards. Golden Delicious and Legana are spoken of as varieties in which a good deal of interest has been shown in recent years, but there are still only 6,117 trees of the former and 2,385 of the latter in Tasmania.

There are still fairly large numbers of French Crab, Geeveston Fanny, Worcester Pearmain, Duke of Clarence, Ribston Pippin, London Pippin, Dunns and Rome Beauty, but they are nearly all in the higher age groups and very few have been planted in the past 16 years. Statesman, Rokewood and Yates have almost completely died out.

In recent years, growers have decided to make a bigger increase on present numbers of Jonathan, Delicious, Crofton, Golden Delicious and Legana than of other varieties, as those named have a much bigger percentage of young trees than have others. In addition, greater numbers of Jonathan were planted than of any other variety, so that the present predominance of Jonathan will be increased. Others in which there have been heavy plantings were Democrat, Granny Smith, Sturmer, Cleopatra and Alfriston. No plantings have been made in recent years of Scarlet, London Pippin, Ribston Pippin, Dunns, Rome Beauty, Rokewood or Yates, and only trifling numbers of Worcester Pearmain, Cox's Orange Pippin, Geeveston Fanny, French Crab, Duke of Clarence and Statesman.

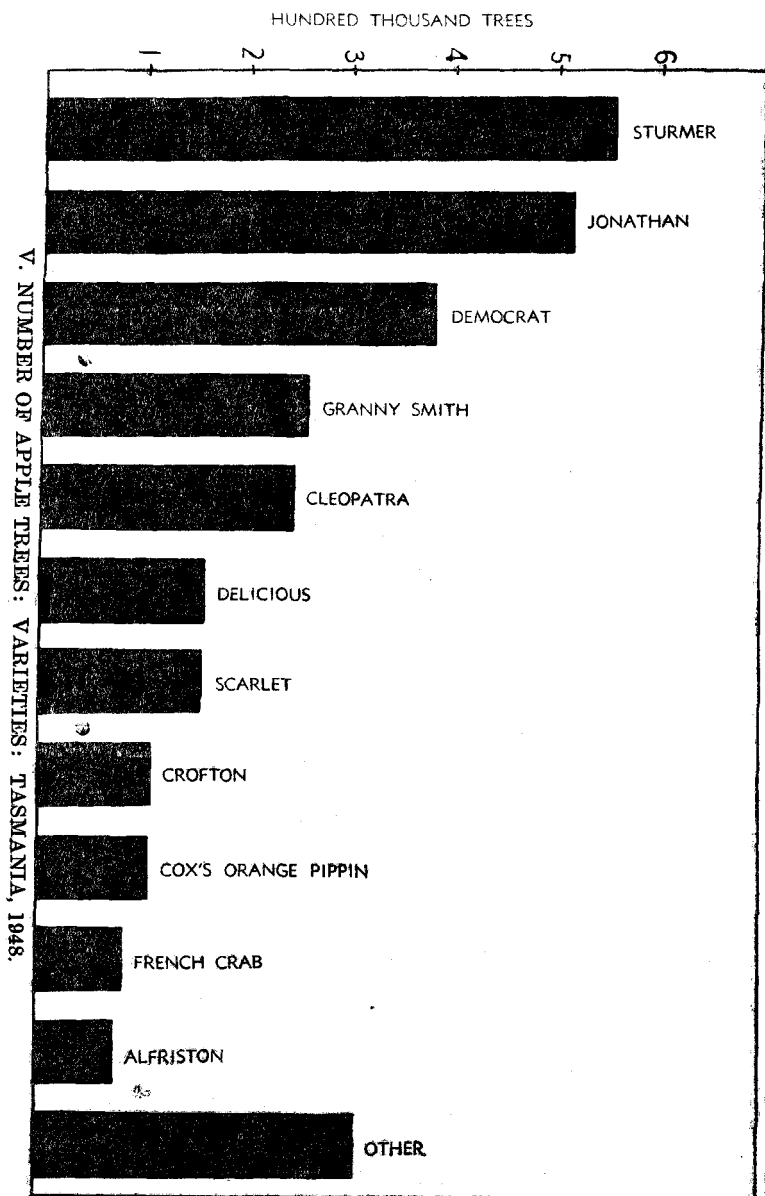
Growers have decided against French Crab, as they declared they will remove or rework almost 19% of the present trees by 1956. Similar percentages of Dunns, London Pippin and Ribston Pippin will also be removed or reworked, and small percentages of Scarlet, Statesman, Duke of Clarence, Rokewood and Cox's Orange Pippin.

The survey has thus shown that the large number of varieties of apple trees in Tasmania, which has been a matter of great concern for many years, is being rapidly reduced. Jonathan will probably displace Sturmer as the most important variety, and these, with Democrat, Granny Smith, Cleopatra, Delicious, Crofton, and Alfriston will supply a large part of the crop. The most promising new variety is Golden Delicious.

The relative importance of the different varieties is illustrated in Table No. 8 on page 42 and in Graph V on page 15.

## 15. DISTRIBUTION OF VARIETIES IN REGIONS.

*Sturmer*: The greatest number of Sturmer trees is found in the Huon municipality, closely followed by Cygnet; but Kingborough has easily the largest number of young trees. About half as many Sturmers are found in Beaconsfield as in Huon, but there is only a trifling number of non-bearing trees.



*Jonathan*: Huon has the largest number of Jonathan trees, but again Kingborough has a greater number of young trees. Beaconsfield has more Jonathan trees than any other municipality except Huon, but only a few of these are young.

*Democrat*: Huon Valley is the principal centre for growing Democrats. Plantings in recent years have been heavy in Huon, but there are also fair numbers in Tasman.

*Granny Smith*: The two leading municipalities for Granny Smith are Huon and Beaconsfield, in both of which the trees are well distributed among the age groups, but every region has for some years past planted this variety.

*Cleopatra*: The main plantings of Cleopatra have recently been made in the Huon Valley, but Tasman is also increasing plantings. This variety is apparently dying out in Northern Tasmania.

*Delicious*: A variety favoured in all parts of Tasmania is Delicious, and heavy plantings have been made in every region in the past seven years. In addition, there are few unhealthy trees in any region.

*Scarlet*: Kingborough is the only municipality which has made any substantial plantings of Scarlet recently. Each region has some Scarlet trees, but, in most places, they are dying out.

*Crofton*: A variety fairly well distributed throughout the apple growing districts is Crofton and plantings have been maintained consistently.

*Cox's Orange Pippin*: A main variety of which the greatest number is not found in Huon is Cox's Orange Pippin, which is found mainly in Region No. 2, particularly at Beaconsfield. Heavy plantings of this variety have also been made at Kingborough during the past 16 years. The relative importance of the various varieties grown in Tasmania is illustrated in Table No. 8 on page 42, and in Graph V on page 15.

## 16. HEALTH OF TREES.

In addition to determining during the survey whether the orchard as a whole could be regarded as being in a healthy condition, a judgment was also made of the health of the individual trees.

For the purpose of the survey, trees which showed normal growth for their variety and district were considered healthy, while any which were not making normal growth because of disease, age, damage or neglect, or unsatisfactory conditions of soil or climate, was regarded as unhealthy.

The health of bearing trees was in general good and in no variety were healthy trees fewer than 90%. Among the eleven main varieties, 97.2% of Granny Smith trees, 97% of Cleopatra, 96.9% of Delicious, and 96.7% of Alfriston were in good health. Cox's Orange Pippin was the least satisfactory with 91.3% of healthy trees.

Of the main varieties, Sturmer, Jonathan, Democrat, Granny Smith, Cleopatra, Delicious, Scarlet, Crofton, Cox's Orange Pippin, French Crab and Alfriston, all have a greater percentage of unhealthy trees in Northern than in Southern Tasmania. Democrat and Scarlet are notably unhealthy in Northern Tasmania.

Among the less important varieties, a high degree of health was evident in Geeveston Fanny, Golden Delicious, Yates and Legana, all of which registered 98%. The last-named showed 100% health in trees of from eight years to 30 years old.

As was to be expected, trees in the "prime of life" group (17 to 30 years) showed the highest percentage of health. Although there was no evidence of serious decline in older trees still in production, it is probable that the worst of these have died and have been removed.

The relative health of trees of the different variety, in age groups, is shown in Table No. 14 on page 48.

#### 17. APPLE PRODUCTION.

From 1940 until 1948, the Commonwealth Government acquired the apple and pear crop in Tasmania on the trees and paid growers a specified amount per estimated bushel.

As shipping was available to take only a part of the crop, the Australian Apple and Pear Marketing Board, which was administering the Acquisition Scheme, collected that part of the crop which it required, and left the rest on the trees.

Growers, however, had to be paid for the whole crop, as the Government did not wish the industry to get into a condition in which its rehabilitation after the war would have been difficult.

Consequently, the problem of deciding the way in which growers' crops should be measured for payment had to be faced. The most certain way would have been to require growers to pick the fruit and deliver it to a central depot, but this would have been an unjustified waste of manpower, packing materials and transport at a time when these were all desperately short. In view of this, assessors were appointed to measure the fruit on the tree, and a basic payment was made on the quantity shown by this measurement, a further payment being made for any expenses incurred in picking and packing fruit required by the Board.

The production shown in Table No. 15 on page 49 is the total of the *assessment* on the farms surveyed. This should not be compared with production shown in official publications for pre-acquisition years (i.e. before 1940), because the basis on which production was measured was different. In pre-acquisition years, "production" means that part of the crop which was marketed (in some cases as low as 80% of the total), whereas in acquisition years "production" means the crop which was measured on the trees by the assessors, generally before the fruit had ripened.

The production shown in the Table may, however, be taken as a fair measure of the variation in production in commercial orchards in Tasmania from year to year. The alternating bearing of apple trees is strikingly illustrated in the production table for six years, as the yield varied from 66% to 127% of the six-year average.

A large part of the crop consisted of Sturmers, which yielded 24% of the total crop over the six-year period. The next most important varieties were Jonathan, 16% of crop; Democrat, 13%; and Cleopatra, 11%. Only 6% of the crop were Granny Smith. This variety is not nearly so important as in some other States, notably Western Australia. Scarlet and French Crab, which are rapidly losing popularity, are still of some importance, with a total of 8% of the crop. Cox's Orange Pippin, the variety for which the highest price is paid on the export market, yielded only 2½% of the total crop over the six years.

The twelve principal varieties gave 90% of the total crop, while the twelve least important named varieties produced only 8½%, other unspecified varieties producing 1½%.

# THE TASMANIAN APPLE AND PEAR INDUSTRY

The period of the year at which the different varieties of apples become available is shown in the following extract from "Buyers Guide to Australian Apples and Pears", which was prepared by Mr. W. M. Carne, Fresh Fruit Export Supervisor, Department of Commerce and Agriculture.

When Available.	Eating Varieties.	Cooking Varieties.
1. Early (from February)	Cox's Orange Pippin, Worcester Pearmain	Cleopatra, Dunns, Granny Smith
2. Early main crop (from early or mid-March)	Jonathan, Cleopatra, Alfriston, London Dunns, Tasman's Pippin, Rome Pride, Geeveston Beauty, French Fanny, Delicious, Crab, Granny Smith Golden Delicious, (Group 1 also available) London Pippin (Group 1 also available in this period)	
3. Mid-season main crop (from late March or early April)	Granny Smith, Scarlet, Sturmer Rome Beauty, Sturmer, Legana (Group 2 also available in this period)	
4. Late main crop (from mid or late April)	Democrat, Yates, Statesman, Rokewood, Crofton (Group 3 also available in this period)	Rokewood (Group 2 and 3 also available in this period)

Of the present 2,810,000 bearing trees, about 368,000 or 13% may be counted as early varieties, 1,140,000 or 40% early main crop, 818,000 or 29% mid-season main crop, and 484,000, or 18% late main crop. About 708,000 bushels or 12% of production for the 6 years 1943 to 1948 were from the early varieties, 2,487,000 bushels or 41% from the early main crop, 1,997,000 bushels, or 31% from the mid-season main crop, and 972,000 bushels, or 16% from the late main crop varieties.

The average yield per tree over a number of years cannot be given since the number of bearing trees is known only for 1948. The crop measurement for that year was slightly above the six-year average. Cleopatra, French Crab and Sturmer showed the highest average yields, with 2.9, 2.8, and 2.7 bushels per tree respectively. Jonathan averaged 2.3, Democrat and Delicious 2.2, Alfriston and Scarlet 2.1, Granny Smith 1.8, Crofton 1.6 and Cox's Orange Pippin 1.4. Among the lesser varieties, Tasman's Pride and Duke of Clarence yielded over 3 bushels per tree. The average of all varieties was 2.3 bushels per tree.

The average yield per orchard for the six-year period was 3,180 bushels.

Growers have estimated that there will be an overall increase in production of 41% by 1956, but reasons have been given in Section 8 for suggesting that this will not be realized and that there will be a fall in production of up to 20%. Growers' estimates of production, by varieties, for the period 1949 to 1956 are shown in Table No. 16 on page 50.



## PART III.

## PEARS

## 1. NUMBER OF PEAR TREES.

At the time of the survey there were 327,486 pear trees in commercial orchards in Tasmania of which 89% were bearing. They cover an area of approximately 2,000 acres. The age grouping of the trees showed that 50% were more than 30 years of age, 25% between 17 years and 30 years, 14% between eight years and 16 years and the remaining 11% non-bearing. The number of trees and varieties is shown in Graph VI, page 20, and Table No. 17, page 51, and the number in age groups in Table No. 18, page 52.

## 2. COMMERCIAL LIFE OF PEAR TREES.

The accepted period of establishment of pears has been taken as seven years and it has been assumed that pear trees commence bearing commercial crops seven years after planting. All trees under eight years are regarded as non-commercial and included under the term "non-bearing", which also includes trees that have been reworked but have not recommenced bearing. The period between the actual reworking and the time when a pear tree recommences bearing commercially has been taken as two years.

Pear trees in Tasmania are generally most productive between the ages of 16 and 30 years, after which there is usually a gradual decline in production. Like some apple trees, pear trees have been known to live much longer in certain instances but to allow for those trees which are removed at a comparatively early age, it has been assumed that, on the average, Tasmanian pear trees become non-commercial at 50 years of age.

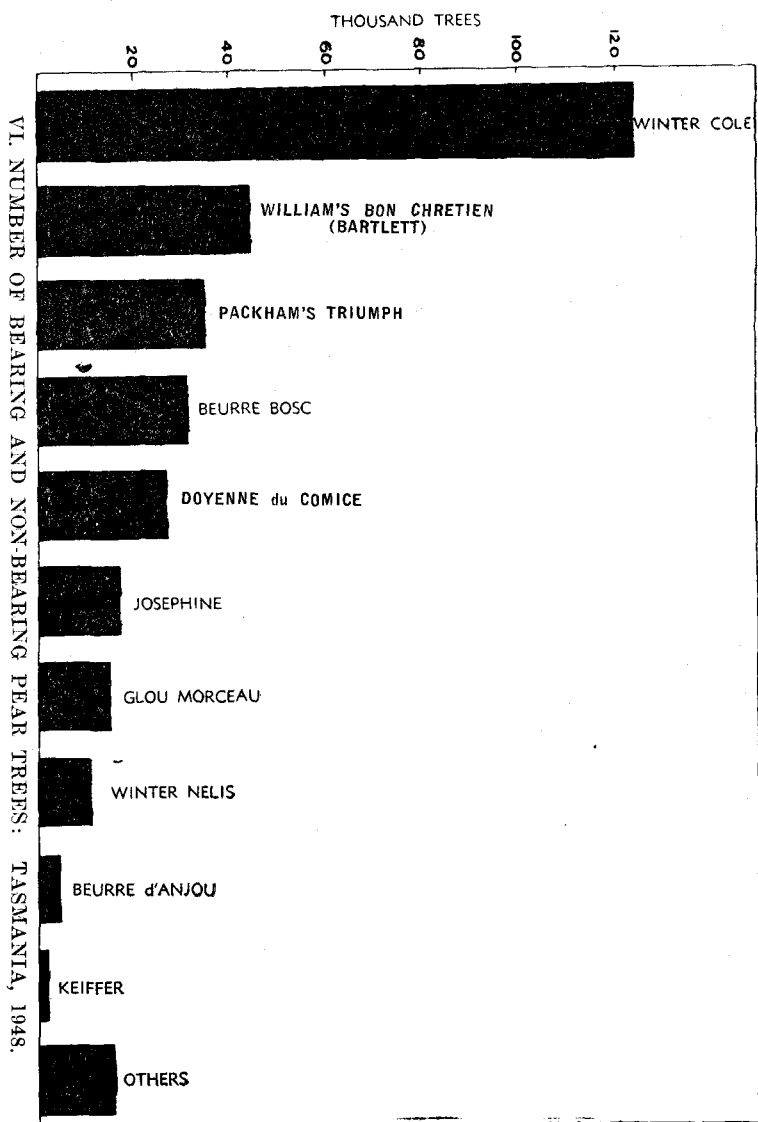
## 3. NEW PLANTINGS AND REWORKS.

The 35,529 non-bearing trees included 33,956 new plantings (95.6%) and 1,574 reworked trees. The expected first year of commercial bearing was not given for 1,521 trees, but if it is assumed that they were mainly new plantings during the same periods as the remaining 34,008, then plantings between 1941 and 1943 averaged 1,930 trees a year, and between 1944 and 1948 averaged 5,930 trees a year. This increase in the annual planting rate may be an indication that the 1948 plantings were well above the five-year average and may have reached 7,000 trees during that year. Reworkings for the two years 1947 and 1948 averaged 790 trees a year. The number of non-bearing pear trees, showing new plantings and reworks by varieties, is shown in Table No. 19, page 53.

## 4. INTENTIONS TO PLANT.

Intended future plantings by growers which are shown in Tables No. 20 and No. 21, pages 54 and 55, indicated that 3,365 pear trees would be planted during the three years ending 1951, an average of 1,120 trees a year. For the period 1952-56 it was anticipated that 4,030 trees would be planted, an average of 810 trees a year. The overall average for the eight years would be 925 trees a year. This decrease in annual plantings during the 1949-51 and 1952-56 periods is not consistent with the actual average plantings between 1941 and 1948 of 4,400 trees a year. Expressed as a percentage, growers intended to plant 78% fewer trees during the 1949-56 eight-year period than were actually planted during the eight years ended 1948, or, 84% less per annum than during the 1945-48 period. This indicates that, as with apples, it is difficult for pear growers to forecast their future planting programmes. Therefore the tables may be used as an indication only of growers' preference for certain varieties, and not of the actual number of trees to be planted and reworked.

## THE TASMANIAN APPLE AND PEAR INDUSTRY



# 5. TREND IN NUMBER OF BEARING TREES.

If it is desirable to maintain the present number of commercially bearing trees in the State, growers will have to plant much more heavily than they did between 1941 and 1948.

On the assumption that commercial production of pear trees commences in the eighth year after planting and ceases at an average age of 50 years, it is calculated that, to keep the tree total constant, the number of trees to be replaced annually should average 2%. This means that, at any time, the non-bearing young trees should be about 14% of the total number of trees or about 16.33% of the number of bearing trees. In 1948 the number of non-bearing trees (which included mostly new plantings) was 10.9% of the tree total or 12.1% of the number of bearing trees, which means that they are insufficient to replace those that will cease bearing from old age or disease. Graph VII, on page 22, shows the number of non-bearing trees, by varieties.

# 6. COMPARISON OF PRESENT AGE GROUPINGS WITH UNIFORM PLANTING.

If plantings had been carried out evenly over the past 50 years, the age grouping of trees would compare with present actual figures as follows:

	Non-bearing.	No. of Trees.		
		Between 8 and 16 years.	Between 17 and 30 years.	Over 30 years.
Present age grouping of trees ..	33,529 (10.9%)	45,592 (13.9%)	81,919 (25.0%)	164,446 (50.2%)
Age grouping with uniform planting .. .. .	45,848 (14%)	58,948 (18%)	91,696 (28%)	130,994 (40%)

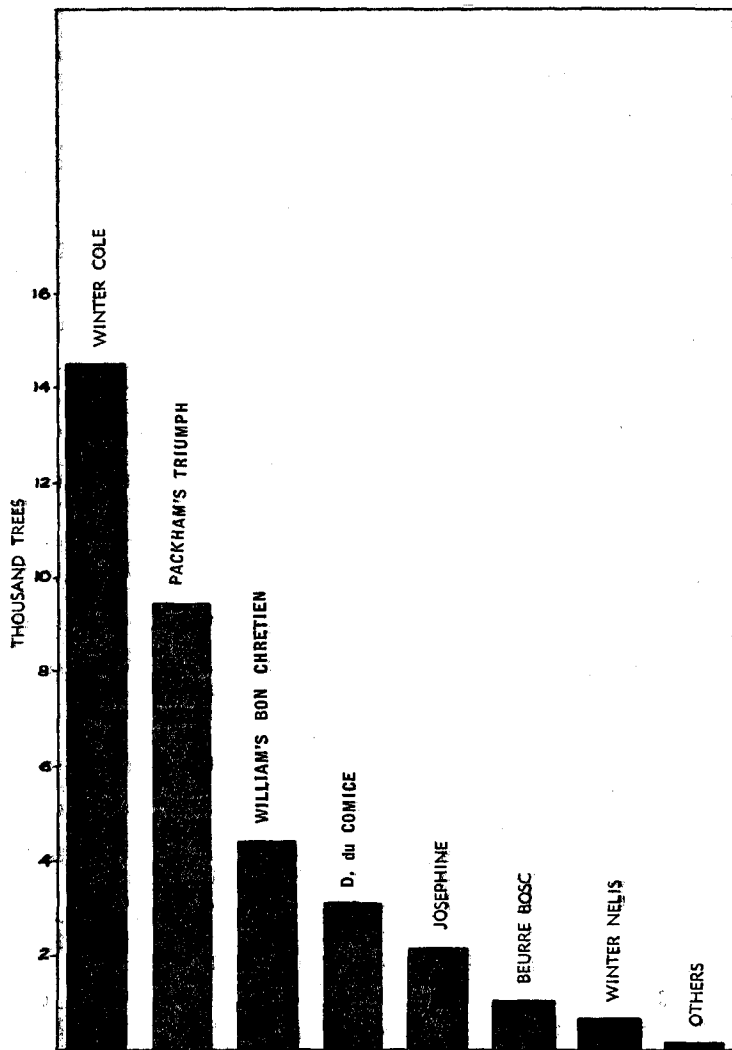
The concentration of trees in the "over 30 years" age group indicates that the number of commercially bearing trees will decrease considerably unless heavy plantings are made in the near future. Graph VIII, on page 23, shows the actual and desirable age grouping of pear trees.

# 7. PROBABLE DECLINE BY 1956.

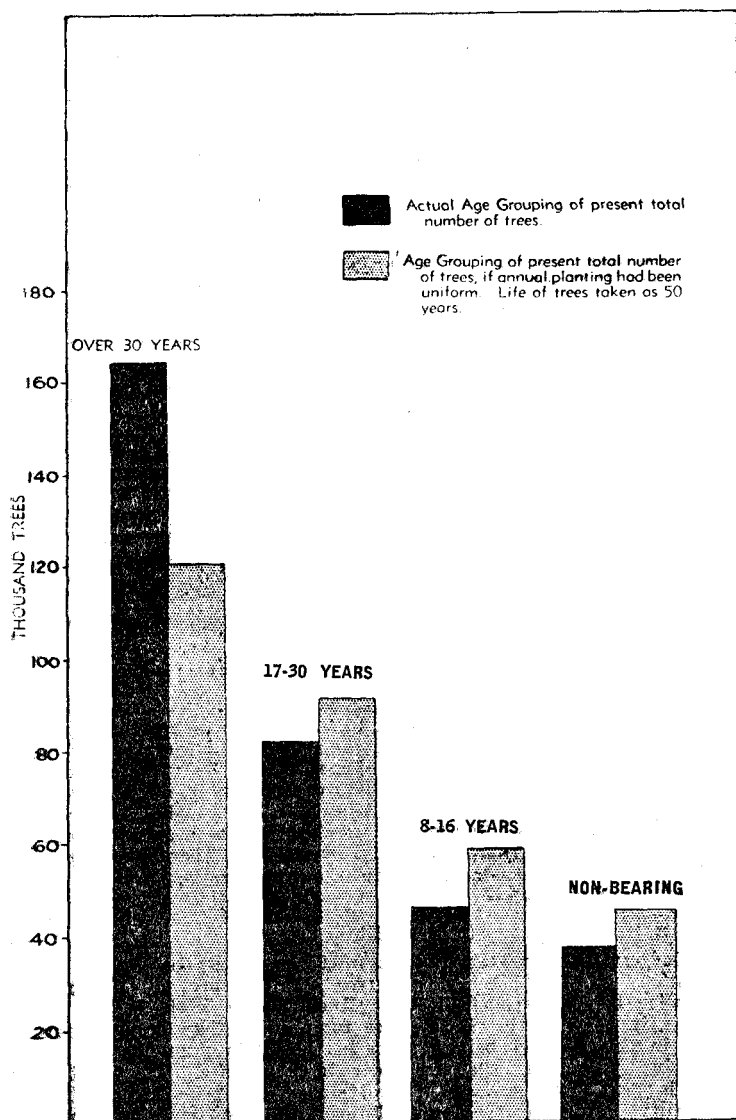
Assuming that the maximum commercially profitable bearing age for pear trees is 50 years, and that the age distribution of trees in the "over 30 years" age group is uniform, bearing trees may decline as follows by 1956:

Bearing trees during 1948 .. .. .	292,000
Less trees over 50 years of age by 1956 (two-fifths of trees over 30 years in 1948) .. .. .	65,800
	226,200
Plus new plantings during 1941-48, which will all be bearing in 1956 .. .. .	34,000
Total bearing trees under 50 years of age by 1956 .. .. .	260,200
Decrease in bearing trees by 1956 .. .. .	31,800

On these assumptions, bearing trees in Tasmania will decrease by 10.9% between 1948 and 1956.

VII. NUMBER OF NON-BEARING PEAR TREES: VARIETIES:  
TASMANIA, 1948.

## VIII. PEAR TREES: AGE GROUPS: TASMANIA, 1948.



## 8. PROBABLE POSITION IN 1968.

Using the same assumptions, in 1968, when all the trees in the "over 30 years" age group in 1948 will have ceased commercially profitable bearing, and assuming that the future annual planting will approximate the estimated 1948 number of 7,000 trees, the position will be:

Bearing trees in 1948 .. .. .	292,000
Less trees over 50 years of age by 1968 .. .. .	164,000
	<hr/>
	128,000
Plus new plantings during 1941-48 .. .. .	34,000
Plus new plantings in 1949-1960 at same rate as 1948 .. .. .	84,000
	<hr/>
	246,000

On these assumptions, the number of bearing trees will decrease by 16% between 1948 and 1968.

If it is considered desirable to maintain the 1948 bearing tree total in 1968, an increase of 4,000 new plantings (or 28%) a year above the 1948 estimated plantings of 7,000 will be required.

## 9. PLANTING NECESSARY TO MAINTAIN PRESENT NUMBER OF BEARING TREES.

Although the indicated high planting rate in the near future may be necessary to retain the 1948 bearing tree total, the rate may be reduced when sufficient young trees have been planted to replace the trees at present in the "over 30 years" age group. When this situation has been reached, plantings could actually drop below the uniform planting rate of 7,000 trees a year as there would then be a big proportion of trees in the younger age groups and therefore less than the uniform number of trees would be removed each year. Over a period, however, a uniform planting rate of 7,000 trees a year would be required, and this rate was probably reached in 1948.

## 10. MARKET PROSPECTS.

In the previous paragraphs suggested future planting requirements were based upon the assumption that it is desirable to maintain the 1948 number of bearing trees. It must be remembered, however, that future planting policy will be affected by domestic and overseas markets for fresh, canned and dried pears, any improvement in yield per tree, and the availability of suitable pear-growing areas. Another factor to be considered is the annual fluctuation in yield due to seasonal conditions and, in some varieties, alternate year fruit setting. Therefore, any future planting policy must have regard to these factors as well as to the age grouping of the trees.

## 11. DISTRIBUTION OF PEAR TREES.

The largest pear-growing district in Tasmania is the Tamar Valley, where nearly 27% of the State's tree total is grown, the principal municipality being Beaconsfield. The Huon Valley is the second largest district, with 24% of the State's tree total, more than half the number of trees in this district being grown in the Huon municipality, almost a third in Cygnet and the remainder in Esperance. The East Coast district is next, with a large proportion of the trees in the Tasman municipality. Clarence, the fourth largest pear-growing municipality, is included in the Derwent Valley, which has a greater tree total than the Channel (mainly in the Kingborough municipality), or the North-west District, where the majority of the trees are in the Devonport municipality.

There is considerable variation in the age groupings in the different pear-growing regions and municipalities. As in the case of apple trees in Tasmania, the regions in the northern portion of the State have the largest percentage of pear trees over 30 years of age and the lowest proportion of non-bearing trees. In the largest pear-growing municipality, Beaconsfield, in the North, more than 88% of the trees are over 30 years of age and less than 2 per cent. non-bearing.

Recent new plantings have been largest in the Tasman municipality, where the non-bearing trees represent 35% of the total and trees over 30 years of age only 9%. The nearest approach to Tasman in percentage of young trees is the Clarence municipality, where non-bearing trees total nearly 15% and trees over 30 years 22%.

With the exception of Tasman, New Norfolk and Kingborough, no municipality has planted sufficient trees during recent years to replace the average number of trees reaching 50 years of age each year. Kingborough has a non-bearing to total trees ratio of only 8.9%, yet it is sufficient to replace the small proportion of trees which in 1948 were more than 30 years of age, provided that plantings are continued at approximately the same rate. It may be expected that any increase in production will be greatest in the Tasman, Clarence, New Norfolk and Kingborough municipalities. The regional distribution of pear trees is shown by age groupings—in Table No. 22, on pages 56 and 57, and Graph IX on page 26.

## 12. PEAR VARIETIES GROWN.

Winter Cole, representing 38% of the State tree total, William's Bon Chretien, 13%, and Packham's Triumph, 11%, constituted approximately two thirds of the pear trees grown in Tasmania during 1948. Beurre Bosc, 9%, and Doyenne du Comice, 8%, were next in importance. The remaining 20% comprised Josephine, 5%, Glou Morceau, 4%, Winter Nelis, 3%, Beurre d'Anjou, 1%, Keiffer, 0.5%, other miscellaneous varieties providing the remainder.

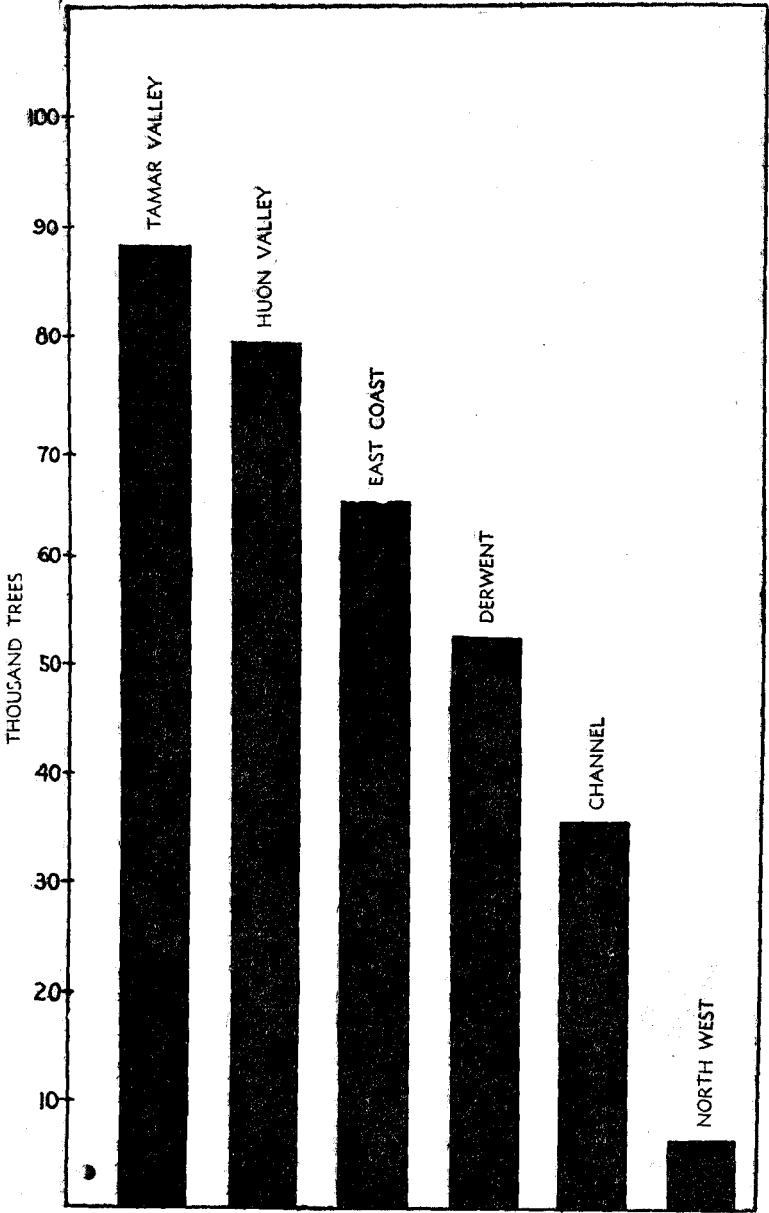
Over a number of years, growers have planted Winter Cole, Packham's Triumph and William's more heavily than other varieties, and they have indicated that they will continue to follow this policy. Packham's Triumph is the most favoured variety at present, as growers have stated they intend to plant and rework to Packham's 5,079 trees, between 1949 and 1956, to Winter Cole 3,576, and to William's 2,214. In addition, 61% of the reworked trees had been reworked to Packham's and 25% to Winter Cole.

Josephine, Doyenne du Comice and Beurre Bosc have lost favour, as numbers of these varieties are being removed. Keiffer and Glou Morceau have a high percentage of trees in the over 30 years age group. The number of trees, by varieties, is shown in Table No. 17, page 51.

## 13. DISTRIBUTION OF VARIETIES IN REGIONS.

*Winter Cole.*—Nearly 60% of the tree total of Winter Cole's is grown in Region No. 6, the most important municipalities being Huon Kingborough, Cygnet and Clarence. In Clarence, the proportion of non-bearing trees is 16%, with less than 29% more than 30 years of age. Twenty per cent. of Winter Cole trees are grown in Region No. 2, chiefly in the Beaconsfield municipality, where nearly 86% are more than 30 years of age and only 1% non-bearing. In Region No. 5, where 19% of trees of this variety are grown, Tasman, the most important municipality, has only 6% over 30 years of age and nearly 30% non-bearing. As the trees over 30 years of age are 100% healthy, a considerable increase in bearing tree numbers may be expected. In Region No. 1, where approximately 1% of the Winter Cole trees are grown, there were no non-bearing trees in 1948 and 62% were over 30 years of age.

IX. DISTRIBUTION OF PEAR TREES: DISTRICTS: TASMANIA, 1948.





Generally it would appear that the number of bearing Winter Cole trees will increase in Tasman, Kingborough, Clarence and Spring Bay, remain more or less constant in Huon and Cygnet and decline in Beaconsfield and other municipalities during the next few years.

*William's Bon Chretien:* The largest proportion of trees of William's Bon Chretien is grown in Region No. 2, representing nearly 38% of the State's total. The majority in this Region are in the Beaconsfield municipality, where 95.7% are more than 30 years of age, with only 0.6% non-bearing and only 89% of the trees over 30 years of age are healthy. This may result in a decline in tree numbers of this variety in the Region. Thirty-two per cent. of the State's total are in Region No. 6, more than half being grown in Clarence, where only 21% are more than 30 years of age and 26% non-bearing. As the trees over 30 years of age are all healthy in this municipality, the number of bearing trees may be expected to increase in future. In Region No. 5 where nearly 29% of the William's Bon Chretien trees are grown, the Tasman municipality has 67.6% non-bearing, only 1.8% over 30 years of age and all trees are healthy. This indicates a substantial future increase in bearing trees. However, the majority of this variety is grown in other municipalities in this Region, where 41.5% of the trees are more than 30 years of age and 7% are non-bearing, all trees being healthy. This may indicate that bearing tree numbers will remain constant for the next few years. Comparatively few trees are grown in Region No. 1, and most of these are over 30 years of age and healthy.

Bearing tree numbers of this variety are likely to increase during the near future in Clarence, New Norfolk and Tasman, remain constant in Kingborough, Huon and Spring Bay, and decline in Beaconsfield and other municipalities.

*Packham's Triumph:* Packham's Triumph is chiefly grown in Region No. 6, where tree numbers represent 47% of the State's total. Region No. 5 has 29% of the State's total, Tasman, the chief municipality, having only 0.7% over 30 years of age, and 52% non-bearing, with tree health well above the State average.

During the next few years it can be expected that bearing tree numbers of this variety will increase in Tasman, Huon, Clarence, Kingborough and Latrobe, remain constant in Esperance and George Town and decline in Beaconsfield, Cygnet and other municipalities in Regions Nos. 1, 2 and 5.

*Beurre Bosc:* More than 50% of Beurre Bosc trees in Tasmania are grown in Region No. 6, chiefly in the Huon, Clarence, Kingborough and Cygnet municipalities.

Only Tasman and New Norfolk municipalities have a sufficient percentage of non-bearing Beurre Bosc trees to assure an increase in bearing tree numbers in the near future. In the remaining pear-growing areas, bearing tree numbers may be expected to decrease.

The distribution of pear trees by Regions is shown in Table No. 22, on page 56, and Graph IX, on page 26.

#### 14. TREE HEALTH.

Trees giving normal growth for their variety and district were regarded as healthy, while unhealthy trees were defined as trees not giving normal growth because of disease, injury, old age, neglect or unsatisfactory soil or climatic conditions. In the survey of the orchards, the field officers who collected the data and who were familiar with the orchards in the districts they surveyed, classified the health of the trees according to these definitions. The William's variety had the largest proportion of healthy trees, with 99.6% healthy. Beurre d'Anjou was next with

99%, all non-bearing trees being healthy. Glou Moreceau, Keiffer and Doyenne du Comice were above average in tree health, with Keiffer trees over 30 years of age having the largest percentage of healthy trees. Winter Cole, with 97.8%, had the same percentage of healthy trees as the average for all varieties. Packham's had 97.1% healthy, with trees between 16 years and 30 years healthier than any other variety in that age group. Except those varieties included under the heading of "Others", Winter Nelis and Josephine had the largest ratio of unhealthy trees as only 95.6% and 96.1% respectively were healthy. Table No. 23, page 58, shows pear tree health in age groups and by variety.

### 15. PEAR PRODUCTION.

From 1940 until 1948 the Commonwealth Government acquired the pear crop in Tasmania and paid growers a specified amount per bushel, as assessed on the trees.

The production shown in Table No. 24, page 59, is the total of the *assessment* on the farms surveyed. This should not be compared with production shown in official publications for pre-acquisition years (i.e., before 1940), as the basis on which production was measured is different in each case.

The production shown may be taken as a fair measure of the variation in production from year to year. This variation in yield was not as great as with apples, but was still fairly large, as it ranged from 82% to 122% of the six-year average. The average crop was slightly below 500,000 bushels.

Easily the largest part of the crop comes from Winter Cole, which produced 41% of the total six-year average crop. The next most important variety was Beurre Bosc with 16% of the average crop, and then William's 8%, Packham's 8% and Comice 7%. More than 80% of the crop was produced by five varieties, and 90% by eight varieties.

Based on the 1948 crop, which was slightly below average, Beurre Bosc had the highest yield of the main varieties, with 2.2 bushels per tree. Winter Cole was lower and Packham's almost  $1\frac{1}{2}$  bushels per tree. The other main varieties averaged about 1 bushel per tree and those classified as "Other" about 2 bushels. The average for all varieties was 1.5 bushels per tree. The yield per orchard for six years was 373 bushels.

The time of year pears become available is shown in the following extract from the "Buyers' Guide to Australian Apples and Pears":

When Available.	Varieties.
1. Early (from January-February) ..	William's Bon Chretien (Bartlett)
2. Early Main Crop (from February-March)	Beurre d'Anjou, Beurre Bosc, Doyenne du Comice, Packham's Triumph
3. Late Main Crop (from March-April)	Glou Moreceau, Josephine, Keiffer, Winter Cole, Winter Nelis

Of the present 292,000 bearing pear trees 42,000 or 14% are early 90,000 or 31% early main crop, and 160,000 or 55% late main crop.

Pear production and growers' estimates of future production are shown in Tables Nos. 24 and 25, pages 59 and 60.

## PART IV. CONCLUSIONS

The main features of the apple and pear industry in Tasmania, as shown in the 1948 survey, are now clear. The orchards cover a total of about 21,000 acres, mainly in concentrated areas in the Huon, Derwent and Tamar Valleys and the Channel District, with less important areas on the East Coast and in the North-west. There are about nine times as many apple as pear trees. Northern Tasmania has only about 20% of the apple trees, compared with 80% in the South and further, the North is declining in importance. Trees are less healthy in the North than in the South.

Only about 29% of the total pear trees are in the North, where the percentage of young trees, as with apples, is also much smaller than in the South. It is clear that the North has not lived up to its early promise, and is becoming relatively less important year by year. The Huon Valley is retaining its position as the most productive area in Tasmania for apples and pears. The greatest number of apple trees of all varieties except two are found here, and the second largest number of pear trees.

About 60% of the orchards which grow apples and pears have no other cash crop; the remainder produce also small fruit, stone fruit, agricultural crops, dairy products, eggs and hops.

The most common size of orchard was between 3 acres and 6 acres, followed by those of 6 to 9 acres, 9 to 12 acres and 12 to 15 acres. About 10% of the orchards had less than 3 acres of apples and pears. While there were a few orchards of over 60 acres, the family sized orchard was easily the most important, as more than 70% of all orchards were of less than 12 acres. The average orchard produced 3,180 bushels of apples and 373 bushels of pears. Sturmer and Jonathan apples and Winter Cole pears were each grown on over 90% of the orchards, while 40% of the orchards have some of the minor varieties of apples and pears.

Nearly all orchards are planted on the square. There is an almost equal division between orchardists who pack on the orchard and those who use a central shed and also between those who use mobile pumps and those who have stationary pumps.

Labour for an average orchard consists of one full-time family worker, half a part-time family worker and half a full-time employee, plus one-quarter part-time employee for both pruning and spraying and one part-time employee for harvesting.

Field officers who carried out the survey estimated that 73% of the orchards are suitably located, and about the same percentage were efficiently managed. Only 65% of the orchards, however, were producing as well as might be expected from well-managed, suitably located and healthy orchards. The best conducted orchards were found in the Huon Valley, where 80% are producing satisfactorily.

### APPLES.

There were almost 3,000,000 apple trees, of which 95% were bearing. Plantings of apple trees between 1941 and 1943 averaged 5,700 trees a year and 26,000 between 1944 and 1948, although they may have been as high as 40,000 in 1948.

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Growers have stated they intend to plant 13,000 trees a year between 1948 and 1956. If it is assumed that the average age at which apple trees cease commercially profitable bearing is 45 years, these rates of planting will be insufficient to replace the trees which are ceasing to produce. On present trends, bearing apple trees will be 21% lower in 1956 than in 1948 and 37% lower in 1963.

Heavy planting in the next few years would be necessary to prevent a decline in tree numbers, but a regular planting programme of 62,000 trees a year would be sufficient to maintain present areas.

Before deciding on a planting policy, however, it would be necessary to survey market prospects, and also to take into account fluctuations in yields. At present, the apple crop may vary between 2,500,000 and 8,000,000 bushels, with a normal crop of about 5,000,000. Before the war, when a favorable season in Tasmania and on the mainland coincided, there was sometimes a surplus of 1,000,000 bushels of apples in Tasmania. A decision should be made whether the aim will be to supply total market requirements in all years, or only in full crop years, leaving an unsatisfied demand in other years.

There are 24 main varieties of apples in Tasmania and a number of others which make up only 1.6% of the total. Three varieties include almost 50% of the trees, and twelve varieties more than 90%. The most important variety at present is Sturmer, although this may eventually be replaced in first place by Jonathan. The other important varieties are Democrat, Granny Smith, Cleopatra, Delicious, Scarlet, Crofton and Cox's Orange Pippin. Promising new varieties are Golden Delicious and Legana, although there are still fewer than 9,000 trees of the two combined.

French Crab, Geeveston Fanny, Worcester-Pearmain, Duke of Clarence, Ribston Pippin, London Pippin, Dunns and Rome Beauty still produce an important part of the crop, but few plantings of these have been made during the past sixteen years, and many are being reworked to other varieties or removed, particularly French Crab, Dunns, London Pippin and Ribston Pippin.

The most extensive plantings in recent years have been Jonathan, Democrat, Granny Smith, Delicious, Sturmer, Crofton, Golden Delicious, Cleopatra and Alfriston. About 12% of the total crop is produced by early varieties (but only partly in the early period), 70% by the early and mid-season main crop varieties and 18% by the late main crop varieties. The growing popularity of mid-season main crop varieties will increase marketing difficulties. Some of the late main crop varieties have declined in favour during recent years.

The health of bearing apple trees was satisfactory, and there was no variety with fewer than 90% healthy. Among the main varieties, Granny Smith, Cleopatra, Delicious and Alfriston were the most healthy, and Cox's Orange Pippin the least.

The most striking aspect of production is the fluctuation in yield from year to year, varying from 66% to 127% of the six-year average of the years 1943 to 1948. The reasons for this alternating bearing are known, but no commercial method of overcoming it has been demonstrated.

The 12 main varieties provide 90% of the total crop, the most important being Sturmer 24%, Jonathan 16%, Democrat 13% and Cleopatra 11%.

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Cleopatra gave the highest average yield in 1948 with 2.9 bushels per tree, followed by French Crab 2.3, Sturmer 2.7, Jonathan 2.3, Democrat and Delicious 2.2, Alfriston and Scarlet 2.1, Granny Smith 1.8, Crofton 1.6 and Cox's Orange Pippin 1.4 bushels per tree. The overall average was 2.3 bushels per tree.

The following table shows the increased yield per acre from the closer planting of trees. It also shows that yields in Northern Tasmania are much below those of the South:

Number of trees per acre.	Northern Tasmania.				Southern Tasmania.			
	Apples.		Pears.		Apples.		Pears.	
	Yield per tree.	Yield per acre.	Yield per tree.	Yield per acre.	Yield per tree.	Yield per acre.	Yield per tree.	Yield per acre.
0-150 .. ..	1.70	195	1.06	122	1.62	210	1.55	200
151-200 .. ..	1.84	329	0.59	105	2.16	365	1.22	205
201-250 .. ..	..	..	..	..	2.03	451	1.79	397
251 and over ..	..	..	..	..	1.72	502	1.44	421

In considering this table, account should be taken of the facts that:

- (a) The yield shown is for 1948, which was above the 1943-48 average of assessments, and is much above yields in 1949 and 1950.
- (b) It is probable that generally the more fertile the soil the closer the planting. It has not been proved that close planting gives better results than wide planting on medium or poor soils, but the results shown suggest that an investigation is warranted.
- (c) Only a few orchards have close planting, as is shown by an analysis of plantings:

No. of trees per acre.	Percentage of orchards in group.				
0-150 .. ..	..	..	..	..	21
151-200 .. ..	..	..	..	..	69
201-250 .. ..	..	..	..	..	7
251 and over ..	..	..	..	..	3

### PEARS.

There were 327,000 pear trees at the time of the survey, of which 89% were bearing. On present trends, bearing trees will decrease by 10% between 1948 and 1956, and by 16% between 1948 and 1968. Some increase in plantings is required over the next few years, but, over a long period, a planting rate of 6,500 trees a year would be sufficient to keep up present numbers, and this rate was probably reached in 1948.

The leading pear producing area in Tasmania is the Tamar Valley, where nearly 27% of the State's total of trees is found, the principal municipality being Beaconsfield. The Huon Valley has 24% of the total, half of them in the Huon Municipality, a third in Cygnet and the rest in Esperance. Beaconsfield is declining in importance, as 88% of the trees are more than 30 years old and less than 2% are non-bearing. The greatest expansion in recent years has taken place in Tasman, where non-bearing trees are 35% of the total and trees over 30 years of age only 9%.

Easily the most important pear variety in Tasmania is Winter Cole, with 38% of the total trees in the State, followed by William's, 13% and Packham's Triumph, 11%. These varieties, plus Comice, Josephine, and Beurre Bosc, comprise 86% of the total. The heaviest plantings in recent years have also been of these varieties.

The health of the pear trees was satisfactory, as 98% were healthy. There were 99.6% healthy William's trees, 99% Beurre d'Anjou and 97.8% Winter Cole. The least healthy of the main varieties was Josephine, with 96.1%, healthy.

The largest number of Winter Cole trees is grown in the Huon and Cygnet municipalities, where the numbers have recently been constant, and in Kingborough, where they are increasing. Tree numbers are increasing also in Tasman. Beaconsfield has the largest number of William's, but Clarence and Tasman have been gaining in relative numbers.

Winter Cole produced 41% of the total crop over the six years 1943 to 1948, Beurre Bosc 16%, and William's and Packham's each 8%. More than 90% of the crop was produced by eight varieties. Almost 60% of the crop was produced by late main crop varieties. Beurre Bosc gave the highest yield, with 2.2 bushels per tree, with Winter Cole slightly lower. The overall average was 1.5 bushels per tree.

In both northern and southern Tasmania, plantings, in recent years, have been on an insufficient scale to replace trees that are passing the commercially profitable bearing ages. This is especially true of apples, in which new plantings of 62,000 trees a year are required to replace old trees, but in which the highest recent planting in one year was not more than 40,000 trees. Plantings of pear trees in 1948 were probably sufficient to replace declining trees, but replacements were at a low level during war years.

In both apples and pears there was an increasing concentration on the growing of already favoured varieties, and a rapid decline in those which are no longer popular in the market. A large part of the crop will continue to be supplied by Jonathan, Sturmer, Democrat and Granny Smith apples and by Winter Cole, Packham's and William's pears. The once-popular French Crab and Scarlet apples and Glou Morceau and Keiffer pears seem to be declining to insignificance.

In both apples and pears, production in northern Tasmania is declining relatively to that of southern Tasmania. In addition, overall production may shortly begin to decline. Production of apples within 15 years may be about 30% lower and of pears slightly lower than in recent years, unless there are heavy plantings in the next few years.

## 1. NUMBER OF APPLE AND PEAR ORCHARDS: TASMANIA, 1948

Region and Municipality.	Total Commercial Apple and/or Pear Orchards.	Total Commercial Orchards growing Apples.	Total Commercial Orchards growing Pears.	Total Commercial Orchards growing Apples only.	Total Commercial Orchards growing Pears only.	Total Properties which produce Apples and/or Pears only.	Total Properties with other production also.	Percentage of Properties which produce Apples and/or Pears only.
REGION No. 1:								
Devonport ..	82	81	29	53	1	77	5	94
Latrobe ..	20	19	15	5	1	19	1	95
Others ..	9	9	4	5	..	7	2	8
Total, Region No. 1	111	109	48	63	2	103	8	93
REGION No. 2:								
Beaconsfield ..	190	189	164	26	1	128	62	62
George Town ..	35	35	31	4	..	25	10	71
Lilydale ..	27	27	17	10	..	16	11	59
Others ..	8	8	5	3	..	..	8	..
Total, Region No. 2	260	259	217	43	1	169	91	65
REGION No. 5:								
Tasman ..	58	58	56	2	..	32	26	55
Others ..	11	11	10	1	..	11	..	100
Total, Region No. 5	69	69	66	3	..	43	26	62
REGION No. 6:								
Huon ..	485	485	343	142	..	307	178	64
Cygnnet ..	317	317	194	123	..	231	86	73
Esperance ..	286	286	100	186	..	259	27	91
Kingborough ..	251	251	194	57	..	114	137	45
New Norfolk ..	32	32	13	19	..	2	30	6
Glenorchy ..	32	31	12	20	1	7	25	22
Clarence ..	34	28	34	..	6	2	32	6
Others ..	44	43	30	14	1	23	21	52
Total, Region No. 6	1,481	1,473	920	561	8	945	536	64
State Total ..	1,921	1,910	1,251	670	11	1,260	661	66

## 2. COMPARATIVE IMPORTANCE OF COMMERCIAL APPLE AND PEAR ORCHARDS ON HOLDINGS WITH OTHER PRODUCTION: TASMANIA, 1948

Order of Importance.		Apples and Pears.	Stone Fruit.	Small Fruit.	Agricultural Crops.	Dairy Produce.	Poultry and Eggs.	Hops.
<b>REGION No. 1:</b>								
First	..	110	..	..	1	..	..	..
Second	..	1	..	..	5	2	..	..
Third	..	..	..	..	..	5	..	..
Fourth	..	..	..	..	..	..	3	..
Total	Region No. 1	111	..	..	6	7	3	..
<b>REGION No. 2:</b>								
First	..	232	2	..	19	4	1	..
Second	..	19	19	2	34	11	4	..
Third	..	6	3	..	7	8	6	..
Fourth	..	1	2	1	..	2	..	..
Not stated	..	2	..	..	..	..	..	..
Total	Region No. 2	260	26	3	60	25	11	..
<b>REGION No. 5:</b>								
First	..	65	..	..	1	3	..	..
Second	..	4	3	1	14	3	1	..
Third	..	..	..	..	1	1	1	..
Fourth	..	..	..	..	1	..	..	..
Total	Region No. 5	69	4	2	17	7	2	..
<b>REGION No. 6:</b>								
First	..	1,321	17	102	9	12	3	12
Second	..	140	76	265	16	25	8	1
Third	..	14	45	18	16	6	1	..
Fourth	..	1	2	1	..	6	1	..
Not stated	..	5	..	..	..	..	..	..
Total	Region No. 6	1,481	140	386	41	49	13	13
State Total		1,921	170	391	124	88	29	13



### 3. PLANTING SYSTEMS: COMMERCIAL APPLE AND PEAR ORCHARDS: TASMANIA, 1948

Region and Municipality	Square.		Triangular.		Square and Triangular.	Not Stated.
	Total.	Percentage.	Total.	Percentage.		
REGION No. 1:						
Devonport .. ..	75	91.5	6	7.3	1	..
Latrobe .. ..	20	100	..	..	..	..
Others .. ..	8	88.9	1	11.1	..	..
Total, Region No. 1	103	92.8	7	63.1	1	..
REGION No. 2:						
Beaconsfield ..	159	83.7	24	12.6	5	2
George Town ..	21	60.0	13	37.1	1	..
Lilydale .. ..	20	74.1	7	25.9	..	..
Others .. ..	6	75.0	2	25.0	..	..
Total, Region No. 2	206	79.2	46	17.7	6	2
REGION No. 5:						
Tasman .. ..	53	91.4	3	5.2	2	..
Others .. ..	11	100	..	..	..	..
Total, Region No. 5	64	92.8	3	4.3	2	..
REGION No. 6:						
Huon .. ..	465	95.9	7	1.4	2	11
Cygnnet .. ..	314	99.1	1	0.3	2	..
Esperance .. ..	273	95.0	4	1.4	6	3
Kingborough ..	250	99.6	..	..	1	..
New Norfolk ..	32	100	..	..	..	..
Glenorchy .. ..	31	96.9	..	3.1	1	..
Clarence .. ..	33	97.1	1	2.9	..	..
Others .. ..	43	97.7	..	2.3	1	..
Total, Region No. 6	1,441	97.3	13	0.8	13	14
State total ..	1,814	94.4	69	3.6	22	16

#### 4. SPRAYING EQUIPMENT USED: COMMERCIAL APPLE AND PEAR ORCHARDS: TASMANIA, 1948

Region and Municipality.	Mobile Power-driven.		Stationary Power-driven.		Mobile and Stationary Power-driven.	Manual Power.	Hired.	Not Stated.
	Total.	Percentage.	Total.	Percentage.				
REGION No. 1:								
Devonport .. .. .	67	81.7	..	..	..	1	14	..
Latrobe .. .. .	18	90.0	..	..	..	2	..	..
Others .. .. .	7	77.8	1	..	..	1	..	..
Total, Region No. 1	92	82.9	1	0.9	..	4	14	..
REGION No. 2:								
Beaconsfield .. ..	160	84.2	5	2.6	1	12	1	11
George Town .. ..	32	91.4	..	..	1	1	1	..
Lilydale .. .. .	21	77.8	..	..	1	5	..	..
Others .. .. .	7	87.5	..	..	..	..	1	..
Total, Region No. 2	220	84.6	5	1.9	3	18	3	11
REGION No. 5:								
Tasman .. .. .	39	67.2	12	20.7	..	5	2	..
Others .. .. .	10	90.9	..	..	..	1	..	..
Total, Region No. 5	49	71.0	12	17.4	..	6	2	..
REGION No. 6:								
Huon .. .. .	118	24.3	312	64.3	5	28	19	3
Cygnnet .. .. .	104	32.8	193	60.9	..	18	..	2
Esperance .. ..	86	30.1	178	62.2	..	18	3	1
Kingborough .. ..	121	48.2	72	28.7	5	38	14	1
New Norfolk .. ..	13	40.6	2	6.3	..	17	..	..
Glenorchy .. ..	5	15.6	9	28.1	..	17	..	1
Clarence .. .. .	28	82.4	..	..	..	5	1	..
Others .. .. .	31	70.5	5	11.3	..	7	..	1
Total, Region No. 6	506	34.2	771	52.1	10	148	37	9
State total	867	45.1	789	41.1	13	176	56	20

# 5. NUMBER EMPLOYED: APPLE AND PEAR ORCHARDS: TASMANIA, 1948

ORCHARDIST'S OWN FAMILY.				SEASONAL EMPLOYMENT.			
Adults.		Children.	Full-time Employees.	Pruning.	Spraying.	Harvesting.	
Full-time.	Part-time.			Average No. of Weeks per Year.	Part-time Employees.	Average No. of Weeks per Year.	
Region No. 1:							
Devonport	..	..	..	..	..	..	
Latrobe	..	..	..	..	..	..	
Wynyard	..	..	..	..	..	..	
Kentish	..	..	..	..	..	..	
Total, Region No. 1	..	..	..	..	..	..	
Region No. 2:							
Beaconsfield	..	..	..	..	..	..	
George Town	..	..	..	..	..	..	
Lilydale	..	..	..	..	..	..	
Scottsdale	..	..	..	..	..	..	
Westbury	..	..	..	..	..	..	
Deloraine	..	..	..	..	..	..	
Longford	..	..	..	..	..	..	
Total, Region No. 2	..	..	..	..	..	..	

**5. NUMBER EMPLOYED: APPLE AND PEAR ORCHARDS: TASMANIA, 1948—continued.**

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					ORCHARDIST'S OWN FAMILY.				SEASONAL EMPLOYMENT.								
					Adults.				Pruning.		Spraying.		Harvesting.				
					Full-time.	Part-time.	Children.	Full-time Employees.	Part-time Employees.	Average No. of Weeks per Year.	Part-time Employees.	Average No. of Weeks per Year.	Part-time Employees.	Average No. of Weeks per Year.			
REGION No. 5:																	
Tasman	..	..	..	..	64	28	1	65	14	5.2	9	3.9	87	14.0			
Spring Bay	..	..	..	..	1	..	..	36	..	..	1	2.0	15	1.2			
Sorell	..	..	..	..	10	4	..	..	..	..	3	2.0	3	13.3			
Total, Region No. 5					..	..	..	75	32	1	101	14	5.2	13	3.2	105	12.2
REGION No. 6:																	
Huon	..	..	..	..	481	286	11	275	86	3.5	51	3.5	523	12.4			
Cygnnet	..	..	..	..	337	94	1	139	92	6.2	55	3.5	255	11.6			
Esperance	..	..	..	..	298	114	3	68	92	4.8	57	3.1	259	10.5			
Kingborough	..	..	..	..	240	109	19	82	85	7.1	70	3.0	161	8.4			
New Norfolk	..	..	..	..	14	20	..	28	29	5.0	20	3.1	51	9.6			
Glenorchy	..	..	..	..	20	25	2	8	7	3.0	16	3.0	24	11.1			
Clarence	..	..	..	..	23	34	..	5	2	2.0	2	3.5	6	12.7			
Bruny	..	..	..	..	15	5	..	10	..	..	..	..	23	11.3			
Brighton	..	..	..	..	20	..	5	6	3	3.0	7	4.0	15	9.2			
Hobart	..	..	..	..	6	5	..	..	..	..	1	3.0	2	4.0			
Richmond	..	..	..	..	..	2	..	..	..	..	..	..	..	..			
Total, Region No. 6					..	..	..	1,454	694	41	621	396	5.3	279	3.2	1,318	11.2
State Total					..	..	..	1,826	965	61	856	516	5.4	439	3.2	1,881	11.3

## 6. CONDITION: APPLE AND PEAR ORCHARDS: TASMANIA, 1948

Region and Municipality.	Productivity.				Health.				Efficiency of Working.				Location.			
	Good.	Fair.	Poor.	Not Stated.	Good.	Fair.	Poor.	Not Stated.	Good.	Fair.	Poor.	Not Stated.	Good.	Fair.	Poor.	Not Stated.
<b>REGION No. 1:</b>																
Devonport .. ..	42	31	9	..	41	32	9	..	47	29	6	..	70	12	..	..
Latrobe .. ..	3	10	7	..	4	9	7	..	5	10	5	..	10	10	..	..
Others .. ..	3	6	..	..	5	4	..	..	5	4	..	..	9	..	..	..
Total, Region No. 1	48	47	16	..	50	45	16	..	57	43	11	..	89	22	..	..
Percentage .. ..	43	42	15	..	45	41	14	..	51	39	10	..	80	20	..	..
<b>REGION No. 2:</b>																
Beaconsfield .. ..	112	72	4	2	127	57	4	2	157	29	2	2	150	37	1	2
George Town .. ..	22	12	1	..	16	16	3	..	23	11	1	..	28	7	..	..
Lilydale .. ..	17	9	1	..	18	7	2	..	18	6	3	..	22	4	1	..
Others .. ..	6	1	1	..	6	1	1	..	7	..	1	..	8	..	..	..
Total, Region No. 2	157	94	7	2	167	81	10	2	205	46	7	2	208	48	2	2
Percentage .. ..	60	36	3	1	64	31	4	1	79	18	2	1	80	18	1	1
<b>REGION No. 5:</b>																
Tasman .. ..	14	39	5	..	15	37	6	..	21	31	6	..	17	40	1	..
Others .. ..	..	10	1	..	..	11	..	..	9	2	..	..	..	10	1	..
Total, Region No. 5	14	49	6	..	15	48	6	..	30	33	6	..	17	50	2	..
Percentage .. ..	20	71	9	..	22	69	9	..	43	48	9	..	25	72	3	..

## THE TASMANIAN APPLE AND PEAR INDUSTRY

## 6. CONDITION: APPLE AND PEAR ORCHARDS: TASMANIA, 1948—continued.

Region and Municipality.	Productivity.				Health.				Efficiency of Working.				Location.			
	Good.	Pair.	Poor.	Not Stated.	Good.	Pair.	Poor.	Not Stated.	Good.	Pair.	Poor.	Not Stated.	Good.	Pair.	Poor.	Not Stated.
Region No. 6:																
Huon ..	344	92	31	18	337	97	33	18	344	82	39	18	382	71	14	18
Cygnat ..	279	19	13	6	283	18	10	6	281	19	10	7	287	15	9	6
Esperance ..	232	39	14	1	221	48	16	1	218	44	23	1	242	36	7	1
Kingborough ..	140	88	12	11	153	78	9	11	182	48	10	11	104	133	3	11
New Norfolk ..	12	17	3	..	16	15	1	..	21	10	1	..	16	16	..	..
Glenorchy ..	8	15	9	..	14	12	6	..	17	11	4	..	15	13	4	..
Clarence ..	4	21	9	..	4	23	7	..	17	16	1	..	1	27	6	..
Others ..	13	23	8	..	19	23	2	..	23	20	1	..	19	23	2	..
Total, Region No. 6	1,032	314	99	36	1,047	314	84	36	1,103	252	89	37	1,066	324	45	36
Percentage ..	70	21	7	2	71	21	6	2	75	17	6	2	72	23	3	2
State total ..	1,251	504	128	38	1,279	488	116	38	1,395	374	113	39	1,380	454	49	38
State percentage ..	65	26	7	2	67	25	6	2	73	19	6	2	72	24	2	2

# 7. DISTRIBUTION OF PACKING SHEDS. APPLE AND PEAR GROWING DISTRICTS: TASMANIA, 1948

Region and Municipality.	At Orchard.		At Central Shed.		At Orchard and Central Shed.	Not Stated.
	Total.	Percentage.	Total.	Percentage.		
REGION No. 1:						
Devonport ..	15	18.3	63	76.8	..	4
Latrobe ..	3	15.0	17	85.0	..	..
Others ..	8	88.9	1	11.1	..	..
Total, Region No. 1	26	23.4	81	73.0	..	4
REGION No. 2:						
Beaconsfield ..	64	33.7	118	62.1	2	6
George Town ..	27	77.1	6	17.1	1	1
Lilydale ..	18	66.7	8	29.6	1	..
Others ..	5	62.5	2	25.0	1	..
Total, Region No. 2	114	43.8	134	51.5	5	7
REGION No. 5:						
Tasman ..	4	6.9	52	89.6	1	1
Others ..	11	100	..	..	..	..
Total, Region No. 5	15	21.7	52	75.4	1	1
REGION No. 6:						
Huon ..	260	53.6	184	37.9	8	33
Cygnnet ..	186	58.7	122	38.5	..	9
Esperance ..	155	54.2	120	42.0	1	10
Kingborough ..	75	29.9	156	62.1	3	17
New Norfolk ..	14	43.7	12	37.5	..	6
Glenorchy ..	13	40.6	8	25.0	..	11
Clarence ..	24	70.6	9	26.5	..	1
Others ..	31	70.4	4	9.1	2	7
Total, Region No. 6	758	51.2	615	41.5	14	94
State Total ..	913	47.5	882	45.9	20	106

### 8. NUMBER OF APPLE TREES BY VARIETIES: TASMANIA, 1948

Variety.	Number of Trees.			Average Number of Trees per Orchard.	Number of Orchards in which Varieties are grown.	
	Total.	Percentage.	Progressive Percentage Total.		Total.	Percentage.
Sturmer .. ..	557,525	18.8	18.8	320	1,743	91.3
Jonathan .. ..	514,683	17.4	36.2	287	1,794	93.9
Democrat .. ..	382,815	12.9	49.1	228	1,680	88.0
Granny Smith ..	260,770	8.8	57.9	199	1,445	75.6
Cleopatra .. ..	246,719	8.3	66.2	179	1,378	72.1
Delicious .. ..	160,065	5.4	71.6	128	1,249	65.4
Scarlet .. ..	157,951	5.3	76.9	175	900	47.1
Crofton .. ..	109,632	3.7	80.6	113	969	50.7
Cox's Orange Pippin	106,328	3.6	84.2	111	962	50.4
French Crab. ..	81,691	2.8	87.0	122	667	34.9
Alfriston .. ..	73,010	2.5	89.5	87	840	44.0
Tasman's Pride ..	54,907	1.9	91.4	108	510	26.7
Geeveston Fanny ..	50,895	1.7	93.1	103	492	25.8
Worcester P.M. ..	40,421	1.4	94.5	61	660	34.5
Duke of Clarence ..	24,459	0.8	95.3	54	451	23.6
Ribston Pippin ..	20,847	0.7	96.0	54	389	22.4
London Pippin ..	20,754	0.7	96.7	66	315	16.5
Dunns .. ..	18,006	0.6	97.3	73	248	13.0
Rome Beauty .. ..	12,648	0.4	97.7	39	323	16.9
Golden Delicious ..	6,117	0.2	97.9	43	141	7.4
Statesman .. ..	5,424	0.2	98.1	51	106	5.5
Rokewood .. ..	3,766	0.1	98.2	43	88	4.6
Legana .. ..	2,385	0.1	98.3	68	35	1.8
Yates .. ..	890	0.1	98.4	68	13	0.7
Others .. ..	48,423	1.6	100	64	761	39.8
Total .. ..	2,961,131	100	100	1,550	1,910	100



# 9. APPLE TREE NUMBERS: AGE GROUPS: TASMANIA, 1948

Variety.	Non-bearing. (a)		Commercial Bearing.						Total Bearing and Non-bearing.	Total Bearing.
	Total.	Percent-age.	Between 8 and 16 years.		Between 17 and 30 years.		Over 30 years.			
			Total.	Percent-age.	Total.	Percent-age.	Total.	Percent-age.		
Sturmer ..	12,687	2.3	33,129	5.9	159,258	28.6	352,451	63.2	557,525	544,838
Jonathan ..	54,239	10.5	59,931	11.7	180,220	35.0	220,293	42.8	514,683	460,444
Democrat ..	25,706	6.7	62,271	16.3	210,499	55.0	84,339	22.0	382,815	357,109
Granny Smith ..	19,399	7.4	61,041	23.4	109,906	42.2	70,424	27.0	260,770	241,371
Cleopatra ..	5,087	2.0	15,473	6.3	79,850	32.3	146,309	59.3	246,719	241,632
Delicious ..	15,949	10.0	38,307	23.9	58,135	36.3	47,674	29.8	160,065	144,116
Scarlet ..	100	0.1	5,743	3.6	36,157	22.9	115,951	73.4	157,951	157,851
Crofton ..	8,986	8.2	14,944	13.6	39,623	36.2	46,079	42.0	109,632	100,646
Cox's Orange Pippin ..	251	0.2	10,369	9.7	23,650	22.3	72,058	67.8	106,328	106,077
French Crab ..	97	0.1	538	0.7	7,684	9.4	73,372	89.8	81,691	81,594
Alfriston ..	2,199	3.0	13,643	18.7	29,566	40.5	27,602	37.8	73,010	70,811
Tasman's Pride ..	1,269	2.3	18,927	34.5	26,243	47.8	8,468	15.4	54,907	53,638
Geeveston Fanny ..	122	0.2	6,255	12.3	30,213	59.4	14,305	28.1	50,895	50,773
Worcester P.M. ..	552	1.4	1,459	3.6	14,137	35.0	24,273	60.0	40,421	39,869
Duke of Clarence ..	18	0.1	663	2.7	11,275	46.1	12,503	51.1	24,459	24,441
Ribston Pippin ..	..	..	692	3.3	3,703	17.8	16,452	78.9	20,847	20,847
London Pippin ..	..	..	863	4.8	4,366	24.2	15,893	76.6	20,754	20,679
..	75	0.4	382	1.8	4,404	21.2	12,777	71.0	18,006	18,006
Rome Beauty ..	..	..	577	4.6	4,110	32.5	7,961	62.9	12,648	12,648
Golden Delicious ..	737	12.0	1,455	23.8	2,562	41.9	1,363	22.3	6,117	5,380
Statesman ..	10	0.2	558	10.3	1,594	29.4	3,262	60.1	5,424	5,414
Rokewood ..	..	..	177	4.7	1,422	37.8	2,167	57.5	3,766	3,766
Legana ..	1,033	43.3	243	10.2	407	17.1	702	29.4	2,385	1,352
Yates ..	..	..	..	..	94	10.6	796	89.4	890	890
Others ..	2,584	5.3	4,008	8.3	9,626	19.9	32,205	66.5	48,423	45,839
Total ..	151,100	5.1	351,648	11.9	1,048,704	35.4	1,409,679	47.6	2,961,131	2,810,031

(a) Includes new plantings under eight years of age, and reworkings that have not recommenced bearing.

## 10. NON-BEARING APPLE TREES: TASMANIA, 1948

Variety.	Number Planted and Reworked.		Total.	By end of 1951.		By end of 1956.		Not Stated.	
	New Plantings.	Reworked Total.		Total.	Percentage.	Total.	Percentage.		
Jonathan ..	52,543	96.9	1,696	54,239	8,072	14.9	40,119	74.1	6,048
Democrat ..	25,315	98.5	391	25,706	2,222	8.6	17,893	69.6	5,591
Granny Smith ..	18,119	93.4	1,280	19,399	2,145	11.0	12,874	66.3	4,380
Delicious ..	15,278	95.7	671	15,949	2,587	16.2	9,889	62.0	3,473
Sturmer ..	12,611	99.3	76	12,687	290	2.3	10,512	82.8	1,885
Crofton ..	8,846	99.5	140	8,986	909	10.1	6,248	69.8	1,829
Cleopatra ..	4,972	97.7	115	5,087	436	8.6	3,914	76.9	737
Alfriston ..	2,149	97.7	50	2,199	20	0.9	1,959	89.1	220
Tasman's Pride ..	1,269	100	..	1,269	370	29.1	785	61.8	114
Legana ..	983	95.1	50	1,033	120	11.6	838	81.1	75
Golden Delicious ..	720	97.7	17	737	232	31.5	425	57.7	80
Worcester Pearmain ..	433	98.4	119	552	50	9.1	336	60.9	166
Cox's Orange Pippin ..	230	91.6	21	251	106	42.2	100	39.8	45
Geeweston Fanny ..	62	50.8	60	122	..	..	122	100	..
Scarlet ..	..	..	100	100	100	100	..	..	..
French Crab ..	17	17.5	80	97	40	41.2	20	20.6	37
London Pippin ..	..	..	75	75	75	100	..	..	18
Duke of Clarence ..	18	100	..	18	..	..	..	..	..
Statesman ..	10	100	..	10	10	100	..	..	..
Ribston Pippin ..	..	..	..	..	..	..	..	..	..
Dunns ..	..	..	..	..	..	..	..	..	..
Rome Beauty ..	..	..	..	..	..	..	..	..	..
Rokewood ..	..	..	..	..	..	..	..	..	..
Yates ..	..	..	..	..	..	..	..	..	..
Other varieties ..	2,214	85.7	370	2,584	369	14.3	1,960	75.8	255
Totals ..	145,789	96.5	5,311	151,100	18,153	12.0	107,994	71.5	24,953

# **11. GROWERS' INTENTIONS TO REMOVE OR REWORK APPLE TREES: TASMANIA, 1948**

Variety.	By the end of 1951.			Between 1952 and 1956.			Between 1948-1956.	
	Removals.	Reworks.	Total.	Removals.	Reworks.	Total.	Total.	Percentage of 1948 Tree Total.
French Crab ..	4,947	3,792	8,739	2,222	4,420	6,642	15,381	18.8
Dunns ..	184	559	743	110	2,207	2,317	3,060	17.0
London Pippin ..	297	1,041	1,338	51	2,061	2,112	3,450	16.6
Ribston Pippin ..	586	1,231	1,817	398	568	966	2,783	13.3
Scarlet ..	4,252	3,587	7,839	1,810	4,191	6,001	13,840	8.8
Statesman ..	37	194	231	48	48	96	327	6.0
Duke of Clarence ..	171	438	609	96	650	746	1,355	5.5
Rokewood ..	25	15	40	113	..	113	153	4.1
Cox's Orange Pippin ..	1,555	213	1,768	1,322	327	1,649	3,417	3.2
Golden Delicious ..	15	..	15	..	150	150	165	2.7
Worcester P.M. ..	643	135	778	212	4	216	994	2.5
Geeveston Fanny ..	280	614	894	20	3	23	917	1.8
Cleopatra ..	2,780	270	3,050	954	6	960	4,010	1.6
Sturmer ..	4,126	522	4,648	2,777	55	2,832	7,480	1.3
Alfriston ..	603	74	677	278	30	308	985	1.3
Tasman's Pride ..	334	194	528	92	35	127	655	1.2
Yates ..	..	12	12	..	..	..	12	1.2
Democrat ..	1,985	54	2,039	2,207	20	2,227	4,266	1.1
Delicious ..	524	26	550	754	151	905	1,455	0.9
Granny Smith ..	1,473	161	1,634	647	..	647	2,281	0.9
Jonathan ..	2,318	..	2,318	1,457	351	1,808	4,126	0.8
Crofton ..	296	84	380	251	24	275	655	0.6
Legana ..	13	..	13	..	..	..	13	0.5
Rome Beauty ..	22	..	22	..	26	26	48	0.4
Others ..	2,641	1,946	4,587	700	1,972	2,672	7,259	15.0
Total ..	30,107	15,162	45,269	16,519	17,299	33,818	79,087	2.7

## 12. GROWERS' INTENTIONS FOR FUTURE APPLE PLANTINGS AND REWORKINGS TO NEW VARIETIES: TASMANIA, 1948

Variety.	By end of 1951.				Between 1952 and 1956.			
	Plantings.		Reworks Total.	Tree Total.	Plantings.		Reworks Total.	Tree Total.
	Total.	Percentage.			Total.	Percentage.		
Jonathan ..	19,457	75.9	6,181	25,638	13,011	74.4	4,471	17,482
Granny Smith ..	8,725	73.6	3,185	11,910	9,208	70.3	3,885	13,093
Democrat ..	8,349	82.5	1,775	10,124	5,584	74.1	1,956	7,540
Sturmer ..	8,221	98.4	130	8,351	5,158	95.7	234	5,392
Delicious ..	4,972	76.8	1,499	6,471	4,865	79.7	1,242	6,107
Crofton ..	2,906	90.2	314	3,220	1,434	61.3	904	2,338
Cleopatra ..	3,190	83.4	633	3,823	1,100	91.4	104	1,204
Alfriston ..	1,436	91.4	135	1,571	400	90.9	40	440
Tasman's Pride ..	975	100	..	975	820	100	..	820
Worcester P.M. ..	800	100	..	800	100	48.3	107	207
Legana ..	320	71.4	126	446	300	65.2	160	460
Cox's Orange Pippin ..	50	80.6	12	62	450	81.8	100	550
Golden Delicious ..	..	..	56	56	50	15.5	273	323
Duke of Clarence ..	225	100	..	225	..	..	..	..
Geeveston Fanny ..	41	100	..	41	..	..	..	..
Rome Beauty ..	..	..	40	40	..	..	..	..
London Pippin ..	29	100	..	29	..	..	..	..
Scarlet ..	14	100	..	14	..	..	..	..
French Crab ..	..	..	..	..	..	..	..	..
Ribston Pippin ..	..	..	..	..	..	..	..	..
Dunns ..	..	..	..	..	..	..	..	..
Statesman ..	..	..	..	..	..	..	..	..
Rokewood ..	..	..	..	..	..	..	..	..
Yates ..	..	..	..	..	..	..	..	..
Others ..	700	69.2	311	1,011	20	33.3	40	60
Total ..	60,410	80.7	14,397	74,807	42,500	75.9	13,516	56,016
Variety undecided ..	..	..	765	765	..	..	3,783	3,783
Total ..	60,410	79.9	15,162	75,572	42,500	71.1	17,299	59,799

## 13. NUMBER OF APPLE TREES BY REGIONS: TASMANIA, 1948

Region and Municipality.	Non-bearing. (a)		Commercial Bearing.						Total Trees.	Total Bearing Trees.
	Total.	Percentage.	Between 8 and 16 years.		Between 17 and 30 years.		Over 30 years.			
			Total.	Percentage.	Total.	Percentage.	Total.	Percentage.		
REGION No. 1:										
Devonport ..	1,669	1.5	7,454	6.9	24,094	22.3	74,805	69.3	108,022	106,353
Latrobe ..	146	0.5	2,765	10.2	1,617	5.9	22,688	83.4	27,210	27,070
Others ..	..	..	2,197	16.0	367	2.7	11,157	81.3	13,721	13,721
Total ..	1,815	1.2	12,416	8.3	26,078	17.5	108,650	73.0	148,959	147,144
REGION No. 2:										
Beaconsfield ..	10,131	3.4	7,115	2.4	37,094	12.5	243,649	81.7	297,989	287,858
George Town ..	757	1.2	2,043	3.3	12,140	19.3	47,830	76.2	62,770	62,013
Lilydale ..	2,101	3.8	6,391	11.6	22,970	41.8	23,503	42.8	54,965	52,864
Others ..	702	3.4	400	1.9	3,146	15.2	16,423	79.5	20,671	19,969
Total ..	13,691	3.1	15,949	3.7	75,350	17.3	331,405	75.9	436,395	422,704
REGION No. 5:										
Tasman ..	11,982	11.1	23,840	22.0	64,118	59.2	8,304	7.7	108,244	96,262
Others ..	60	0.2	334	1.1	11,517	36.7	19,428	62.0	31,339	31,279
Total ..	12,042	8.6	24,174	17.3	75,635	54.2	27,732	19.9	139,583	127,541
REGION No. 6:										
Huon ..	35,806	4.5	87,308	10.9	297,743	37.3	377,041	47.3	797,898	762,092
Cygnat ..	26,398	5.4	28,409	5.8	203,676	41.6	231,035	47.2	489,518	463,120
Esperance ..	36,574	9.2	38,972	9.8	154,575	39.1	165,633	41.9	395,754	359,180
Kingborough ..	19,301	5.6	121,812	35.2	145,268	42.0	59,528	17.2	345,909	326,608
New Norfolk ..	805	1.5	5,667	10.4	16,945	31.1	31,130	57.0	54,547	53,742
Glenorchy ..	981	2.2	2,821	6.2	15,575	34.4	25,859	57.2	45,236	44,255
Clarence ..	400	1.3	6,277	20.5	12,762	41.6	11,205	36.6	30,644	30,244
Others ..	3,287	4.3	7,843	10.2	25,097	32.7	40,461	52.8	76,688	73,401
Total ..	123,552	5.5	299,109	13.4	871,641	39.0	941,892	42.1	2,236,194	2,112,642
State total ..	151,100	5.1	351,648	11.9	1,048,704	35.4	1,409,679	47.6	2,961,131	2,810,031

(a) Includes new plantings under eight years of age and reworkings that have not recommenced bearing.

## THE TASMANIAN APPLE AND PEAR INDUSTRY

## 14. APPLE TREE HEALTH: AGE GROUPS: TASMANIA, 1948

Variety.	Between 8 years and 16 years.			Between 17 years and 30 years.			Over 30 years.			Total.			
	Healthy.	Unhealthy.	Percentage Healthy.	Healthy.	Unhealthy.	Percentage Healthy.	Healthy.	Unhealthy.	Percentage Healthy.	Healthy.	Unhealthy.	Percentage Healthy.	Total Healthy and Unhealthy.
Sturmer ..	30,606	2,523	92.4	155,282	3,976	97.5	339,054	13,397	96.2	524,942	19,896	96.3	544,838
Jonathan ..	58,359	1,572	97.4	175,371	4,349	97.6	207,652	12,641	94.3	441,882	18,562	96.0	460,444
Democrat ..	59,949	2,322	96.3	205,702	4,797	97.7	79,055	5,284	93.7	344,706	12,403	96.5	357,109
Granny Smith ..	59,781	1,260	97.9	107,846	2,060	98.1	67,141	3,283	95.3	234,768	6,603	97.2	241,371
Cleopatra ..	14,873	600	96.1	77,529	2,321	97.1	141,954	4,355	97.0	234,356	7,276	97.0	241,632
Delicious ..	37,690	617	98.4	56,559	1,576	97.3	45,421	2,253	95.3	139,670	4,446	96.9	144,116
Scarlet ..	5,296	447	96.9	35,026	1,131	96.9	111,828	4,123	96.4	152,150	5,701	96.3	157,851
Crofton ..	14,608	336	97.7	38,886	737	98.1	43,003	3,076	93.3	96,497	4,149	95.9	100,646
Cox's Orange Pippin ..	9,926	443	95.7	21,975	1,675	92.9	65,001	7,057	90.2	96,902	9,175	91.3	106,077
French Crab ..	374	164	69.5	7,379	305	96.0	70,782	2,590	96.5	78,535	3,059	96.2	81,594
Alfriston ..	13,066	577	95.8	28,828	738	97.5	26,624	978	96.4	68,518	2,293	96.7	70,811
Tasman's Pride ..	18,152	775	95.9	25,582	661	97.5	8,173	295	96.5	51,907	1,731	96.8	53,638
Geeveston Fanny ..	6,139	116	98.1	29,656	557	98.1	14,020	285	98.0	49,815	958	98.1	50,773
Worcester P.M. ..	1,339	120	91.7	13,322	815	94.2	22,723	1,550	93.6	37,384	2,485	93.8	39,869
Duke of Clarence ..	637	26	96.1	10,650	625	94.4	11,991	512	95.9	23,278	1,163	95.2	24,441
Ribston Pippin ..	642	50	92.8	3,603	100	97.3	15,672	780	95.2	19,917	930	95.5	20,847
London Pippin ..	337	45	88.2	4,067	337	92.3	14,326	1,567	90.1	18,730	1,949	90.6	20,679
Dunns ..	771	92	89.3	4,229	137	96.9	11,844	933	92.7	16,844	1,162	93.5	18,006
Rome Beauty ..	569	8	98.6	3,908	202	95.1	7,616	345	95.7	12,093	555	95.6	12,648
Golden Delicious ..	1,442	13	99.1	2,551	11	99.6	1,288	75	94.5	5,281	99	98.1	5,380
Statesman ..	495	63	88.7	1,427	107	89.5	3,008	254	92.2	4,930	484	91.1	5,414
Rokewood ..	119	58	67.2	1,380	42	97.0	2,139	28	98.7	3,638	128	96.6	3,766
Légana ..	243	..	100.0	407	..	100.0	681	21	97.0	1,331	21	98.4	1,352
Yates ..	..	..	..	94	..	100.0	780	16	98.0	874	16	98.2	890
Others ..	3,394	614	84.7	9,075	551	94.3	29,936	2,269	92.9	42,405	3,434	92.5	45,839
Total ..	338,807	12,841	96.3	1,020,834	27,870	97.3	1,341,712	67,967	95.2	2,701,353	108,678	96.1	2,810,031

# THE TASMANIAN APPLE AND PEAR INDUSTRY

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## 15. APPLE PRODUCTION FROM COMMERCIAL ORCHARDS: TASMANIA

Variety.	Crop Assessments (bushels).						Six-year Average.	Average Percentage of Production in Total Crop.	Percentage Total.
	1943.	1944.	1945.	1946.	1947.	1948.			
Sturmer ..	1,226,407	1,665,683	1,515,383	1,771,076	1,010,815	1,458,888	1,441,375	23.73	23.73
Jonathan ..	748,761	1,171,235	946,227	1,276,310	656,275	1,080,483	979,882	16.13	39.86
Democrat ..	658,597	876,740	867,636	809,650	567,378	785,226	760,871	12.53	52.39
Cleopatra ..	509,521	863,453	570,614	882,755	400,233	723,579	658,359	10.84	63.23
Granny Smith ..	285,773	499,922	258,155	599,302	253,426	437,826	389,067	6.41	69.64
Scarlet ..	306,618	175,568	308,597	297,421	65,943	318,509	245,443	4.04	75.68
French Crab ..	204,090	332,360	197,927	328,822	145,263	232,000	240,077	3.95	77.63
Delicious ..	167,091	253,246	220,203	260,592	213,411	253,794	228,056	3.75	81.38
Crofton ..	123,390	193,105	133,785	225,022	82,416	162,023	153,290	2.52	83.90
Alfriston ..	122,208	157,514	157,985	168,314	101,206	155,577	143,801	2.37	86.27
Cox's Orange Pippin ..	104,859	186,586	140,149	196,080	80,015	148,721	142,735	2.35	88.62
Tasman's Pride ..	101,387	182,027	113,471	189,612	75,943	179,666	140,351	2.31	90.93
Geeveston Fanny ..	108,091	160,639	126,345	153,279	82,082	150,249	130,114	2.14	93.07
Ribston Pippin ..	71,130	65,672	84,903	70,032	48,817	53,848	65,734	1.08	94.15
Worcester Pearmain ..	45,989	89,063	55,113	86,149	47,274	68,505	65,349	1.08	95.23
Duke of Clarence ..	68,732	71,724	66,047	79,108	36,688	67,114	64,902	1.07	96.30
London Pippin ..	25,055	48,720	26,723	48,568	17,850	35,069	33,664	0.55	96.85
Dunns ..	19,194	40,755	22,385	43,700	16,340	29,219	29,219	0.48	97.33
Rome Beauty ..	18,952	37,069	16,670	42,283	11,945	31,647	26,411	0.44	97.77
Golden Delicious ..	5,905	9,990	8,648	12,155	7,950	11,482	9,355	0.16	97.93
Statesman ..	7,769	11,743	7,623	12,056	7,064	7,231	8,914	0.15	98.08
Rokewood ..	6,225	9,301	5,291	8,726	4,838	6,688	6,845	0.11	98.19
Yates ..	1,462	1,734	3,119	3,331	2,760	2,864	2,545	0.04	98.23
Legana ..	1,350	1,584	2,075	3,305	2,311	1,586	2,035	0.03	98.26
Others ..	84,395	140,282	102,765	134,903	67,775	103,859	105,663	1.74	100
Total ..	5,022,951	7,245,715	5,957,839	7,702,551	4,005,918	6,509,375	6,074,058	100	..
Percentage of six-year average ..	82.69	119.29	98.09	126.81	65.95	107.17	100	..	..

# 16. GROWERS' ESTIMATES OF APPLE PRODUCTION FROM COMMERCIAL ORCHARDS, TASMANIA

(Bushels)

Variety.	1949.	1950.	1951.	1956.	Percentage Increase or Decrease of Estimated 1956 Crop on 1949-48 Average.
Sturmer ..	1,281,419	1,723,244	1,525,909	1,829,616	26.9+
Jonathan ..	910,930	1,283,718	1,128,186	1,484,723	51.5+
Democrat ..	622,483	970,338	846,332	1,123,369	47.6+
Cleopatra ..	598,852	845,712	698,694	926,429	40.4+
Granny Smith ..	378,747	566,487	487,787	697,585	74.7+
Scarlet ..	200,002	332,162	253,013	334,579	36.3+
French Crab ..	160,181	267,175	180,657	252,679	5.2+
Delicious ..	208,085	300,865	272,804	368,256	61.5+
Crofton ..	136,444	216,587	166,120	255,592	47.2+
Alfriston ..	116,841	178,288	153,984	207,401	42.2+
Cox's Orange Pippin	123,801	190,412	140,550	203,759	42.7+
Tasman's Pride ..	105,974	185,535	127,520	207,651	47.9+
Geeveston Fanny ..	79,150	153,311	109,712	170,646	31.2+
Ribston Pippin ..	46,877	66,343	54,165	66,339	0.9+
Worcester Pearmain	66,448	82,281	74,117	90,499	38.5+
Duke of Clarence ..	54,304	81,511	62,762	79,670	22.7+
London Pippin ..	24,833	39,101	26,144	36,531	8.5+
Dunns ..	20,610	37,393	21,727	38,606	32.1+
Rome Beauty ..	21,619	35,590	25,800	37,806	43.1+
Golden Delicious ..	9,964	13,169	12,855	15,658	67.4+
Statesman ..	7,862	9,201	8,434	9,230	3.5+
Rokewood ..	4,788	8,248	5,624	8,785	28.3+
Yates ..	1,871	2,123	2,023	2,458	3.4-
Legana ..	2,435	3,888	2,791	4,525	122.4+
Others ..	75,774	114,035	85,202	112,819	6.8+
Total ..	5,260,294	7,706,717	6,472,912	8,565,211	41.0+



### 17. NUMBER OF PEAR TREES BY VARIETIES: TASMANIA, 1948

Variety.	Number of Trees.			Average Number of Trees per Orchard.	Number of Orchards in which Varieties are grown.	
	Total.	Percentage.	Progressive Percentage Total.		Total.	Percentage.
Winter Cole ..	124,318	38.0	38.0	108	1,148	91.8
William's (Bartlett)	44,862	13.7	51.7	125	358	28.6
Packham's ..	35,831	11.0	62.7	80	448	35.8
Beurre Bosc ..	31,893	9.7	72.4	49	652	52.1
Doyenne du Comice	26,899	8.2	80.6	77	350	28.0
Josephine ..	16,786	5.1	85.7	52	324	25.9
Glou Morceau ..	14,566	4.5	90.2	56	258	20.6
Winter Nelis ..	10,906	3.3	93.5	55	198	15.8
Beurre d'Anjou ..	4,331	1.3	94.8	43	101	8.7
Keiffer ..	1,925	0.6	95.4	45	43	3.4
Others ..	15,169	4.6	100.0	32	473	37.8
Total ..	327,486	100.0	100.0	262	1,251	100.0

## 18. PEAR TREE NUMBERS: AGE GROUPS: TASMANIA, 1948

Variety.	Commercial Bearing.								Total Bearing and Non-bearing.	Total Bearing.
	Non-bearing. (a)		Between 8 and 16 years.		Between 17 and 30 years.		Over 30 years.			
			Total.	Percentage.	Total.	Percentage.	Total.	Percentage.		
Winter Cole .. ..	14,568	11.7	15,216	12.2	37,267	30.0	57,267	46.1	124,318	109,750
William's .. ..	4,416	9.8	9,361	20.9	5,658	12.6	25,427	56.7	44,862	40,446
Packham's .. ..	9,461	26.4	9,856	27.5	6,745	18.8	9,769	27.3	35,831	26,370
Beurre Bose .. ..	1,056	3.3	2,276	7.1	9,373	29.4	19,188	60.2	31,893	30,837
Doyenne du Comice ..	3,104	11.5	4,755	17.7	7,824	29.1	11,216	41.7	26,899	23,795
Josephine .. ..	2,129	12.7	1,957	11.7	3,370	20.1	9,330	55.5	16,786	14,657
Glou Morceau .. ..	17	0.1	189	1.3	2,436	16.7	11,924	81.9	14,566	14,549
Winter Nelis .. ..	649	5.9	849	7.8	4,547	41.7	4,861	44.6	10,906	10,257
Beurre d'Anjou .. ..	74	1.7	598	13.8	865	20.0	2,794	64.5	4,331	4,237
Keiffer .. ..	..	..	68	3.5	409	21.3	1,448	75.2	1,925	1,925
Others .. ..	55	0.3	467	3.1	3,425	22.6	11,222	74.0	15,169	15,114
Total .. ..	35,529	10.9	45,592	13.9	81,919	25.0	164,446	50.2	327,486	291,957

(a) Includes new plantings under eight years of age and reworkings which have not recommenced bearing.

**19. NON-BEARING PEAR TREES: TASMANIA, 1948**

Variety.	Number Planted or Reworked.				Number of Trees Expected to Produce a Commercial Crop :				
	New Plantings.		Reworks.	Total.	by end of 1951.		by end of 1956.		Not Stated.
	Total.	Percentage.			Total.	Percentage.	Total.	Percentage.	
Winter Cole ..	14,179	97.3	389	14,568	2,623	18.0	11,242	77.2	703
Packam's ..	8,499	89.8	962	9,461	1,001	10.6	7,979	84.3	481
William's ..	4,369	98.9	47	4,416	475	10.8	3,805	86.2	136
Doyenne du Comice ..	3,060	98.6	44	3,104	843	27.2	2,151	69.3	110
Josephine ..	2,129	100.0	..	2,129	440	20.7	1,675	78.8	14
Beurre Bosc ..	1,044	98.9	12	1,056	205	19.4	844	79.9	7
Winter Nelis ..	560	86.3	89	649	50	7.7	579	89.2	20
Beurre d'Anjou ..	49	66.2	25	74	19	25.7	55	74.3	..
Glou Morceau ..	17	100.0	..	17	5	29.4	12	70.6	..
Keiffer ..	..	..	..	..	..	..	..	..	..
Others ..	50	90.9	5	55	..	..	5	9.1	50
<b>Total ..</b>	<b>33,956</b>	<b>95.6</b>	<b>1,574</b>	<b>35,529</b>	<b>5,661</b>	<b>15.9</b>	<b>28,347</b>	<b>79.8</b>	<b>1,521</b>

**20. GROWERS' INTENTIONS TO REMOVE OR REWORK PEAR TREES:  
TASMANIA, 1948**

Variety.	By the end of 1951.			Between 1952 and 1956.			Between 1948 and 1956.	
	Removals.	Reworks.	Total.	Removals.	Reworks.	Total.	Total.	Percentage of 1948 Tree Total.
Keiffer .. ..	19	230	249	..	..	..	249	12.9
Josephine .. ..	864	510	1,374	46	473	519	1,893	11.3
Winter Nelis .. ..	289	16	305	115	216	331	636	5.8
Doyenne du Comice .. ..	598	16	614	200	104	304	918	3.4
Glou Morceau .. ..	32	61	93	38	361	399	492	3.4
Beurre Bosc .. ..	385	300	685	165	72	237	922	2.9
William's .. ..	608	46	654	73	..	73	727	1.6
Winter Cole .. ..	660	411	1,071	565	245	810	1,881	1.5
Packham's .. ..	42	16	58	14	85	99	157	0.4
Beurre d'Anjou .. ..	..	10	10	..	..	..	10	0.2
Others .. ..	594	948	1,542	146	1,013	1,159	2,701	17.9
Total .. ..	4,091	2,564	6,655	1,362	2,569	3,931	10,586	3.2

## 21. GROWERS' INTENTIONS FOR FUTURE PEAR PLANTINGS AND REWORKINGS TO NEW VARIETIES: TASMANIA, 1948

Variety.	By the end of 1951.				Between 1952 and 1956.			
	Plantings.		Reworks.	Total.	Plantings.		Reworks.	Total.
	Total.	Percentage.			Total.	Percentage.		
Packham's ..	855	45.4	1,029	1,884	2,615	81.8	580	3,195
Winter Cole ..	1,503	83.9	288	1,791	1,065	59.7	720	1,785
William's ..	455	32.5	946	1,401	170	20.9	643	813
Beurre Bosc ..	270	100	..	270	..	..	..	..
Doyenne du Comice ..	167	91.2	16	183	50	57.5	37	87
Josephine ..	100	80.1	24	124	..	..	..	..
Winter Nelis ..	..	..	11	11	100	100	..	100
Beurre d'Anjou ..	..	..	..	..	30	100	..	30
Glou Morceau ..	15	100	..	15	..	..	..	..
Keiffer ..	..	..	..	..	..	..	..	..
Others ..	..	..	82	82	..	..	348	348
Undecided ..	..	..	168	168	..	..	241	241
Total ..	3,365	56.8	2,564	5,929	4,030	61.1	2,569	6,599

## 22. NUMBER OF PEAR TREES BY REGIONS: TASMANIA, 1948

Region and Municipality.	Non-bearing. (a)		Commercial Bearing.						Total Bearing and Non-bearing.	Total Bearing.	
			Between 8 and 16 years.		Between 17 and 30 years.		Over 30 years.				
	Total.	Percentage.	Total.	Percentage.	Total.	Percentage.	Total.	Percentage.			
REGION No. 1:											
Devonport ..	..	..	1,296	29.5	21	0.5	3,071	70.0	4,388	4,388	
Latrobe ..	30	1.7	..	..	280	15.8	1,459	82.5	1,769	1,739	
Others ..	..	..	..	..	..	..	135	100.0	135	135	
Total ..	30	0.5	1,296	20.6	301	4.8	4,665	74.1	6,292	6,262	
REGION No. 2:											
Beaconsfield ..	1,296	1.9	1,138	1.6	5,700	8.2	61,698	88.3	69,832	68,536	
George Town ..	206	1.9	154	1.4	1,837	16.6	8,836	80.1	11,033	10,827	
Lilydale ..	..	..	..	..	3,086	49.2	3,182	50.8	6,268	6,268	
Others ..	20	1.5	..	..	..	..	1,294	98.5	1,314	1,294	
Total ..	1,522	1.7	1,292	1.5	10,623	12.0	75,010	84.8	88,447	86,925	
REGION No. 5:											
Tasman ..	16,166	35.2	8,901	19.4	16,746	36.5	4,117	8.9	45,930	29,764	
Others ..	2,115	11.1	6,265	32.8	22	0.1	10,682	56.0	19,084	16,969	
Total ..	18,281	28.1	15,166	23.3	16,768	25.8	14,799	22.8	65,014	46,733	

(a) Includes new plantings under eight years of age and reworkings that have not recommenced bearing.

## 22. NUMBER OF PEAR TREES BY REGIONS: TASMANIA, 1948—continued.

Region and Municipality.	Non-bearing. (a)		Commercial Bearing.						Total Bearing and Non-bearing.	Total Bearing.
			Between 8 and 16 years.		Between 17 and 30 years.		Over 30 years.			
	Total.	Percentage.	Total.	Percentage.	Total.	Percentage.	Total.	Percentage.		
REGION No. 6:										
Huon ..	3,316	7.3	4,021	8.8	13,011	28.4	25,378	55.5	45,726	42,410
Clarence ..	5,980	14.7	8,817	21.6	16,943	41.6	9,020	22.1	40,760	34,780
Kingborough ..	2,895	8.9	9,824	30.3	12,881	39.7	6,853	21.1	32,453	29,558
Cygnet ..	1,386	5.6	2,747	11.1	5,151	20.7	15,550	62.6	24,834	23,448
Esperance ..	619	7.1	1,242	14.1	1,635	18.6	5,294	60.2	8,790	8,171
New Norfolk ..	570	14.2	466	11.6	2,378	59.2	602	15.0	4,016	3,446
Glenorchy ..	125	3.3	369	9.6	343	9.0	2,989	78.1	3,826	3,701
Others ..	805	11.0	352	4.8	1,885	25.7	4,286	58.5	7,328	6,523
Total ..	15,696	9.4	27,838	16.6	54,227	32.3	69,972	41.7	167,733	152,037
State Total ..	35,529	10.9	45,592	13.9	81,919	25.0	164,446	50.2	327,486	291,957

(a) Includes new plantings under eight years of age and reworkings that have not recommenced bearing.

## 23. PEAR TREE HEALTH: AGE GROUPS: TASMANIA, 1948

Variety.	Between 8 years and 16 years.			Between 17 years and 30 years.			Over 30 years.			Total.			Total Healthy and Unhealthy.
	Healthy.	Unhealthy.	Percentage Healthy.	Healthy.	Unhealthy.	Percentage Healthy.	Healthy.	Unhealthy.	Percentage Healthy.	Healthy.	Unhealthy.	Percentage Healthy.	
Winter Cole ..	15,005	211	98.6	36,238	1,029	97.2	56,065	1,202	97.9	107,308	2,442	97.8	109,750
William's ..	9,348	13	99.9	5,578	80	98.6	25,360	67	99.7	40,286	160	99.6	40,446
Packham's ..	9,701	155	98.4	6,691	54	99.2	9,219	550	94.4	25,611	759	97.1	26,370
Beurre Bosc ..	2,078	198	91.3	9,209	164	98.2	18,834	354	98.1	30,121	716	97.7	30,837
Doyenne du Comice ..	4,643	112	97.6	7,639	185	97.6	11,091	125	98.9	23,373	422	98.2	23,795
Josephine ..	1,841	116	94.1	3,295	75	97.8	8,945	385	95.9	14,081	576	96.1	14,657
Glou Morceau ..	186	3	98.4	2,376	60	97.5	11,808	116	99.0	14,370	179	98.8	14,549
Winter Nelis ..	849	..	100.0	4,387	160	96.5	4,570	291	94.0	9,806	451	95.6	10,257
Beurre d'Anjou ..	598	..	100.0	831	34	96.1	2,787	7	97.5	4,216	41	99.0	4,257
Keiffer ..	48	20	70.6	402	7	98.3	1,446	2	99.9	1,896	29	98.5	1,925
Others ..	360	107	77.1	3,206	219	93.6	10,916	306	97.3	14,482	632	95.8	15,114
Total ..	44,657	935	97.9	79,852	2,067	97.5	161,041	3,405	97.9	285,550	6,407	97.8	291,957



## 24. PEAR PRODUCTION FROM COMMERCIAL ORCHARDS: TASMANIA

Variety.	Assessments (bushels).						Six-year Average.	Average Percentage of Production to Total Crop	Progressive Percentage Total.
	1943.	1944.	1945.	1946.	1947.	1948.			
Winter Cole ..	167,140	213,711	213,711	192,538	154,371	206,309	191,297	41.0	41.0
Beurre Bosc ..	69,015	75,420	81,756	72,719	76,330	69,506	74,124	15.9	56.9
William's ..	(a) 55,097*	(a) 55,097*	75,486	65,017	42,949	36,927	(a) 55,097	8.1	65.0
Packham's ..	29,172	34,732	43,630	37,298	42,533	33,295	36,777	7.9	72.9
Doyenne du Comice ..	25,229	36,145	37,543	30,657	44,626	28,952	33,859	7.2	80.1
Glou Morceau ..	25,833	24,684	34,975	26,002	29,105	16,379	26,163	5.6	85.7
Josephine ..	15,157	15,425	19,373	13,714	14,820	11,605	15,016	3.2	88.9
Winter Nelis ..	10,055	13,160	12,745	8,834	10,076	9,110	10,663	2.3	91.2
Beurre d'Anjou ..	4,782	5,255	6,607	4,731	5,700	5,147	5,370	1.1	92.3
Keiffer ..	2,017	2,136	2,085	1,524	694	2,112	1,761	0.4	92.7
Others ..	32,743	38,857	40,278	32,943	27,932	31,746	34,083	7.3	100
Total ..	436,130	504,428	568,189	485,977	449,136	451,088	484,210	100	100
Percentage of six-year average ..	82.3	99.1	121.7	104.1	96.2	96.6	100	.	..

(a) Four-year average. As no figures for Packham's for 1943 and 1947 were available, the four-year average was used for these years.

\* On the majority of schedules the measured crops for these years were not given. The average for the four years 1945-48 was 55,097 bushels.

## 25. GROWERS' ESTIMATES OF PEAR PRODUCTION FROM COMMERCIAL ORCHARDS: TASMANIA

(Bushels)

Variety.	1949.	1950.	1951.	1956.	Average Percentage to Total Crop.
Winter Cole ..	176,937	242,385	255,778	288,510	39.6
Beurre Bosc ..	70,988	86,581	81,032	93,935	13.7
William's ..	70,722	76,889	80,176	94,503	13.2
Packham's ..	43,855	49,237	53,027	69,893	8.9
Doyenne du Comice	37,219	43,701	44,730	56,462	7.5
Glou Morceau ..	26,449	31,269	30,576	34,803	5.1
Josephine ..	16,065	18,231	18,848	23,617	3.1
Winter Nelis ..	11,613	12,275	12,849	14,566	2.1
Beurre d'Anjou ..	5,762	7,464	7,060	9,276	1.2
Keiffer ..	2,454	2,490	2,601	2,664	0.4
Others ..	27,579	34,639	29,339	33,872	5.2
Total ..	489,643	605,161	616,016	722,101	100.0